HORTICULTURAL ABSTRACTS

INDEX TO

VOLUME XXVIII

1958

Compiled and issued quarterly since 1931 by the

COMMONWEALTH BUREAU OF HORTICULTURE AND PLANTATION CROPS

EAST MALLING, KENT, ENGLAND

EDITOR: D. AKENHEAD, O.B.E., M.A., B.Sc.

NSP
RAM
MM

COMMONWEALTH MYCOL
4-FEB 1959

Digitized by the Internet Archive
in 2025

https://archive.org/details/horticultural-science-abstracts_1958_28_index

INDEX OF NAMES

Horticultural Abstracts, Vol. XXVIII

Aala, F. T., 1997a
Aalders, L. E., 3663, 3666
Aalsmeer Research Station for Floriculture. 3905. 3906.
Akune, S., 3370, 3400a
Al-Aish, M., 2908
Alban, E. K., 379, 389a, 2506
Alberta Department of Agri-
Amerine, M. A., 3458a
Amici Fabricatore, J., 753a, 1785a
Amling, H. J., 3340

HORTICULTURAL ABSTRACTS

ERRATA

Vol. XXVI.

Abstract 4118.	2nd Author.	*For* Chryssoheris, F. P. *read* Chrysocheris, F. P.
Abstract 4118.	Text Line 5.	*For* Gaidourolea *read* Gaidourelea

Vol. XXVII.

Abstract 1000.	Title Line 3.	For *Agronomia* read *Agronómica*
	Title Line 4.	For *Argent.* read *argent.*
Abstract 1586h.	Author.	*For* U Huan-Juań *read* Hu, H[wang]-H[uang]
Abstract 1960g.	Title Line 2.	*For* anláise *read* análise
Abstract 2035.	Text Lines 14 and 15.	*Omit, substituting* more rapidly in petunia, dwarf dahlia and dwarf salvia, and more slowly in geranium and *Capsicum frutescens* as a result of treatment.
Abstract 3021.	Text Line 2.	*For* content *read* number
Index.		*For* Baruah, H. K., 951h *read* Baruah, H. K., 951n
Index.		*For* Sharpe, R. H., 2314t *read* Sharpe, R. H., 2341t

Vol. XXVIII.

Abstract 115.	Text Penultimate Line.	*For* hornbean *read* hornbeam
Abstract 125.	Text Line 5.	*For* occurs *read* can be effectively carried out
Abstract 125.	Text Penultimate Line.	*For* affected *read* effected
Abstract 358.	Text Line 11.	*For* Gleditsia *read* Gleditschia
Abstract 589s.	Text Line 1.	For *Rhizoctoria* read *Rhizoctonia*
Abstract 959u.	Author.	*For* Hoyt, C. P. *read* Dumbleton, L. J.
Abstract 2072.	Text Line 3.	For *clematis* read *clematitis*
Abstract 2716m.	Title Line 2.	*For* vitamin O *read* vitamin C
Abstract 2839p	Text Line 1.	For *rhoes* read *rhoeas*
Abstract 3178a.	Text Line 2.	*For* contents *read* numbers
Abstract 3179.	Title Lines 4 and 5.	*For* Johannesberg *read* Johannesburg

INDEX OF NAMES

Horticultural Abstracts, Vol. XXVIII

Aala, F. T., 1997a
Aalders, L. E., 3663, 3666
Aalsmeer Research Station for Floriculture, 3905, 3906, 3907
Aarts, J. F. T., 664, 2859
Abastos, M., 429
Abbiss, H. W., 2944a
Abbot, M. T. J., 2716a
Abdel Ghani, A. M., 2127
Abdoh, Y., 589a
Abe, —, 3025
Åberg, B., 1046, 3197
Abiusso, N. G., 1616
Abraham, E. V., 1815
Abraham, P., 1672a, 1672b, 3857
Abrahão, J., 4092
Abrams, R., 3026a
Abramsky, M., 822c, 822d
Acarer, P., 1044
Acharya, R. C., 1943, 1997b
Achaya, K. T., 638, 639
Achtnich, W., 1065
Acosta, J. C., 2716b
Adamič, F., 2448a
Adams, R. E., 258
Adamson, R. M., 3706
Adlerz, W. C., 747
Adlung, K. G., 2448d
van Adrichem, M. C. J., 1254, 2253, 3510
Aengenheister, J., 1766
Aerts, R., 262, 3491
Agaev, Ju. M., 2180
Agarwal, R. A., 1997c
Agarwala, D. C., 906
Agarwala, R. K., 2982
Agnew, G. W. J., 4112
Agricultural Research Council, London, 962, 4171
Aguilá, J. F., 674
Ahlberg, E., 1081a
Ahmed, M. B., 2238 l
Ahtardžiev, H., 2839a
Aichele, M. D., 3400f
Aida, H., 1545a
Aisic, C., 3863
Aiyadurai, S. G., 1864, 3176a
Aiyar, K. V. G., 4156a
Ajvazjan, P. K., 2263
Akamine, E. K., 1345
Akazawa, T., 649a, 649b
Akune, S., 3370, 3400a
Al-Aish, M., 2908
Alban, E. K., 379, 389a, 2506
Alberta Department of Agriculture, 1015a
Albuquerque, S. D. S., 3176b
Aldebert, P., 2284
Alder, E. F., 1081p
Alderman, W. H., 1101, 1169a
Aldrich, R. J., 1368c, 3583
Aleksiev, A., 3598
Alers-Alers, S., 3107
Alex, A. H., 3664
Alexander, L. J., 511, 534a
Alfieri, B., 2944b
Algérie, Gouvernement Général, 3201
Algérie, Ministère de l'Agriculture, 468
Ali, N., 822a
Alicata, J. E., 1744
Alim, A., 2839b, 2839c
Ali-zade, M. A., 948
Alkan, B., 1997d
Allan, J. E., 3285a
Allan, W., 985
Allen, E. F., 3039
Allen, H. W., 3544
Allen, N., 581
Allen, R. M., 1997e
Allen, W. W., 300, 1266, 3562r
Allerton, F. W., 2716c
Alleweldt, G., 1216a, 3429, 3432
Alley, C. J., 3433
de Almeida, P. R., 1316a
Almindelig Dansk Gartnerforening, 3202
Almirante, B. A., 2839d
Aloi, L., 3996a
Alpat'ev, A. V., 482, 1500, 2667
Alston, R. E., 3285b
Al'tman, F. F., 281
Altman, J., 2557
Alvarez L., E., 1546c
Alvim, P. de T., 3683
Amaki, W., 1732
Amarell, H., 1566
Amato, V. A., 3582
Ambarcumjan, M. A., 1133
Ambrosi, M., 3514
Amer, F. A., 689
Amerine, M. A., 3458a
Amici Fabricatore, J., 753a, 1785a
Amling, H. J., 3340
Ammal, E. K. J., 4154
Ampuero, E., 1849
Amstein, W. G., 2301d
Amsterdam, Royal Tropical Institute, 2058q, 3226 l
Ananjan, A. A., 534b
Ananthanarayanan, K. K., 1840n
Anastov, A., 3819
Ancheta, S., 594
van Andel, O. M., 2593
Anders, F., 1273, 2408
Anderson, A. L., 446
Anderson, B. R., 2487
Anderson, E. B., 753b
Anderson, E. J., 1310
Anderson, J. B. R., 753c
Anderson, J. D., 180a
Anderson, J. W., 3383
Anderson, L. D., 3557
Anderson, M. A., 1288
Anderson, N. H., 327, 2394, 2395
Andes, B. C., 3903a
Andeweg, J. M., 1545b
Andrade, A. C., 1951
Andrási, E., 3458b
Andreae, W. A., 2096
Andreasen, R. C., 1700
Andreeva, N. A., 1024
Andreeva, T. F., 13
Andrejčeva, M., 584, 2754
Andrén, F., 1405
Andreotti, R., 1531, 1532, 2010
Andreucci, E., 3949
Andrews, F. S., 2643
Andrews, F. W., 965
Andrews, P., 180a, 180b
Andries, M. C., 596
Angel-Malachi, S., 2117
Angelini, P., 181b
Anglin, C., 2146a
Anon., 68a, 78, 81, 85, 143, 180c, 219a, 238, 310, 337a, 337b, 741, 753d, 753e, 794, 813, 863, 866, 914, 959a, 959b, 959c, 959d, 1157, 1169b, 1169c, 1169d, 1172, 1175, 1307, 1316b, 1316c,

1334, 1343, 1368a, 1539, 1545c, 1602a, 1602b, 1672c, 1791, 1840a, 1852, 1880, 1916, 1946, 1955, 1997f, 1997g, 1997h, 1997i, 2146b, 2146c, 2225, 2293, 2448b, 2511a, 2511b, 2825, 2839e, 2839f, 2848, 3026b, 3026c, 3110, 3117, 3166, 3176c, 3176d, 3279, 3281, 3373, 3382, 3384, 3400b, 3400c, 3437, 3439, 3458c, 3477, 3561a, 3596, 3903b, 3927, 3996b, 4017, 4124, 4156b
Anquez, M., 163
Anselme, C., 808
Anstey, T. H., 3324, 3325
Antcliff, A. J., 236, 1204, 3446
Anthon, E. W., 1265, 2429
Antibes, Station d'Agronomie et de Biochimie Végétale, 4191
Antipov, V. G., 731
Antoine, R., 1945, 3138
Antongiovanni, E., 3020
Antonova, G. V., 2589
Anzaldo, F. E., 594
Anzalone, L., Jr., 3976
Aoba, —., 3025
Apeland, J., 1398
Apltauer, J., 1386
Apostol, H., 3798
Apple, J. L., 1602c
Applegate, H. G., 2102, 2091
Appleman, W., 534x
Aragaki, M., 3093
Aragonés Apodaca, R., 2128
Arai, K., 1374
Arakeri, H. R., 389b
Aravamudhan, P., 1934, 1998r, 3125, 4135
Arbeláez Giraldo, E., 856
Archibald, J. A., 2279
Arellano, M., 3789
Arens, P. L., 891
Argoud, S., 3176e
Argudin, J., 3801
Arhangel'skaja, V. V., 2265
Arizona Agricultural Experiment Station, 4200a
Ark, P. A., 3561b
Arle, H. F., 1328, 1368b
Armstrong, T., 3527, 3561c
Armstrong, W. W., Jr., 364, 804
Arnoux, M., 2351, 2352
Aroeira, J. S., 2930
Artschwager, E., 3122
Arvidsson, L., 1675
Aschmann, H., 822b
Asen, S., 1770, 2940
Asenjo, C. F., 1989, 3038
Ashley, D. A., 3721
Ashley, T. E., 3298
Askew, H. O., 1651, 2807
Asmaev, P. G., 2773, 2775
Asquith, D., 1279, 3521
van Assche, M., 1508
Asselbergs, E. A. M., 480, 1148
Association of Growers of the New Varieties of Hops (A.G.N.V.H.), 619
Ataev, A. A., 1672d
Atalla, E. A. R., 4041
Atkins, E. L., Jr., 3557
Atkinson, J. D., 180d, 246, 2331, 2448i
Atlas, E., 3026v
Atteridg, G. S., 351
Aultman, D. A., 378, 3795a
Aura, K., 2617
Ausland, O., 1477
Austin, R. B., 931
Australia, Commonwealth Dried Fruits Control Board, 2058b
Australia, Commonwealth Scientific and Industrial Research Organization, 170, 212, 256, 537, 984
Australian Canned Fruits Board, 2058a
Avakjan, A. G., 3677
Avasthy, P. N., 3142
Avent, K. L., 3458d
Avidov, Z., 3017
Avron, M., 822c, 822d
Avundžjan, È. S., 2079, 2083
Awada, M., 898
Awatramani, N. A., 1552
Awdejew, J. T., 3672, 3743
Axelrod, B., 1082i
Aycock, R., 534t, 1785b, 2577
Ayers, R. S., 2059
Ayers, T. T., 453, 2610
Aytoun, R. S. C., 2850

Babenko, G. N., 1201
Babin, M. R., 4045a
Bachy, A., 1899, 4111
Bacon, J. S. D., 534c
Bacon, O. G., 2717d
Badanova, K. A., 3804
Badhwar, R. L., 3871
Baebler, S., 586, 3829
Bagchi, R., 2716j, 2824
Baggiolini, M., 1317k, 3542
Baghdadi, H. A., 2511c, 3026d, 3026e, 3026f, 3026g
Bagley, W. T., 358
Bagnall, B. H., 2365, 2366
Bagnaresi, U., 2299
Bagot, Y., 2833
Bahodyrov, M., 2156
Bailey, C. H., 1169r, 3400q
Bailey, F. L., 3400d
Bailey, G. F., 3003
Bailey, J. B., 1270, 2405, 2448y, 3531
Bailey, J. S., 1106
Bailey, P. H., 2816, 3891, 3892
Bailey, S. F., 2548
Bain, J. M., 2974
Baines, R. C., 796, 1796, 4022, 4023
Baird, E. W., 1548
Baird, W. P., 1785c
Bajescu, N., 3438
Bajkov, G. K., 1110
Bajlov, D., 584, 2754
Bajpai, P. N., 1142, 3986
Baker, E. A., 337x
Baker, K. F., 963, 1723, 1724
Baker, L. O., 340
Baker, R., 675
Baker, R. E. D., 857
Baker, V. H., 1594
de Bakker, G., 2001
Bakker, J., 3946
Bal, S. N., 2819
Balasubramanyam, P., 1081b
Bald, J. G., 1723, 1724, 2901
Baldacci, E., 2385, 3551
Baldassari, T., 3358
Baldini, E., 822e, 1169e, 1840b, 2010, 3561d
Bali, P. N., 693, 1691, 1786m, 2944c
Baliguas, C. N., 2839g
Ballard, J. C., 3282, 3795b
Ballinger, W. E., 164, 3412, 3413, 3414
Balsgård Fruit Breeding Institute, 76
Baltzakis, N., 808
Banaag, A. F., 1546s
Banana Board, Jamaica, 3028
Bandurski, R. S., 3114
Banga, O., 1470, 2625, 2716d
Bant, J. H., 3935
Banta, E. S., 1169f
Barbados, B.W.I. Central Sugar Cane Breeding Station, 1932
Barber, G. A., 823c
Barbesino, M., 16
Barbier, E., 607
Barbieri, R., 2541, 2676
Bardin, R., 1491
Bardsley, C. E., 3807
Barger, W. R., 2146v
Barlow, H. W. B., 2173, 2326
Barltrop, J. A., 2839w
Barnes, J. M., 2009
Barnes, M. M., 3538
Barrat, J. G., 3476
Barrau, J., 533, 955, 2839h
Barreto Domínguez, R., 4133, 4134, 4156c
Barrie, A. G., 4156d
Barrie, J. W., 3176f

Barrons, K. C., 3621a
Barros, O., 3690
Bártfay, T., 435
Bartlett, B. R., 2987, 4045b
Bartley, B. G. D., 841, 3042
Bartolucci, A., 2771
Barton, L. V., 1707, 2146d
Bartram, R. D., 264, 1137, 3400e
Barua, D. N., 1968, 3176g
Barua, P. K., 4144
Baruah, H. K., 960n, 3172
Basavanna, G. P. C., 3171
Basila, F. A., 3132, 3133, 3144, 4128
Baskakov, Ju. A., 2089
Baskett, W. J., 337c
Basov, A. M., 2571
Bass, T., 1570
Basso, M., 4045c
Bastos, M. L., 1623
Basu, P. K., 1545e
Batchelor, G. S., 3524
Bate-Smith, E. C., 1026
Batjer, L. P., 226, 1108, 2213, 3365
Bats, J., 2203, 2312, 2313
Batt, R. F., 257, 330, 333, 337s, 3562f
Battersby, A. R., 3867
Baudendistel, R., 691, 1767
Baudewijn, J., 3297
Bauer, R., 219b
Baumann, G., 248, 1264
Baumann, H., 657
Baumgärtel, H., 660
Baumgartner, L. L., 3911
Bavappa, K. V. A., 1990, 3177i
Bawden, F. C., 589b, 3207
Baxter, P., 131
Bayer, E., 3996c
Beal, J. L., 3864
Beall, J. M., 1595
Bean, A. G. M., 1677
Bear, J. E., 1665
Beard, F. H., 619, 627
Beattie, J. M., 2204, 2311
Beattie, J. R., 3415
Beaufils, E. R., 4119
Beaumont, A., 3935
de Beaux, S. A., 1169g, 3375
Beccari, F., 3037, 4060
Becker, A., 3609, 3691
Becker, S., 4156e
Beckham, C. M., 2640
Bedford, C. L., 180e
Bedri, A. A., 2950
Beeson, K. C., 3285p
Beevers, H., 649a, 649b, 649c, 1672v
Beidas, A. S., 524
Belgraver, W., 3920
Bell, H. K., 3414, 3447
Bell, P. R., 2809
Bell, T. A., 3458e
Bellin, S. A., 3834
Bel'tjukova, K. G., 2554
Beltrá, R., 814
Benazouz, O., 753j, 2944g
Benda, G. T. A., 576, 2756
Benedek, L., 1536
Benedict, W. D., 144
Bengston, M., 1312
Bengtsson, A., 1324
Benk, E., 3026h
Benne, E. J., 422
van Bennekom, J. L., 1470
Bennett, L. G., 188, 485
Bennett, M., 2399, 2439
Bennett, M. F., 2365, 2366
Bennett, R. R., 1602d, 1602e, 1602k, 3856o
Benoit, R., 589c
Benson, L. C., 386, 3620
Benson, N. R., 226, 1128
Bental, A., 822x
Bentley, J. A., 4172
Bentley, J. P. N., 941
Bentley, M., 3179
Beraha, L., 42
Beratungsstelle für Gartenbau u. Landwirtschaft, Berlin, 2472
Berežnoj, P. S., 1228
Berg, J., 2942
Bergann, F., 3996d
Berger, C. A., 68b
Berger, J. L., 896
Berger, P., 589d, 589e, 1576
Bergh, B. O., 3026i
F. W. Berk & Co. Ltd., London, 2356
Berkeley, G. H., 3795c
Bermuda Department of Agriculture, 2016, 4168
Bernardo, F. A., 1638
Berneking, A. D., 68c
Bernlohr, R., 1023
Bernstein, L., 4172
Bernstorff, H., 2238a
Beroza, M., 1672e
Berry, F. H., 2389
Berry, S. Z., 3000, 3001
Bertling, L., 1825
Bertossi, F., 3553
Besemer, A. F. H., 2407, 2441
Bess, H. A., 1424
Bestagno, G., 677
Bethune, J. L., 3887
Bevan, C. W. L., 1672f
Beyers, E., 3463
Bhan, K. C., 830
Bharat, S., 4049
Bharath, S., 4102
Bhargava, K. S., 1233
Bharucha, F. R., 1672g
Bhat, K. S., 1990
Bhat, N. R., 552, 1557
Bhiravamurty, P. V., 837
Bhoj, R. L., 1958
Biale, J. B., 822c, 822d, 822f, 822k, 838, 3027n
Bianchini P., C. L., 4093
Biddulph, O., 2123
Bidner-BartHava,N.,959e,1845
Bieber, R. E., 3904a
Bielińska, M. J., 151, 1169h
Bierhuizen, J. F., 3236
Biggs, R. H., 2084
Bik, R. A., 3939, 3979, 3985
Bilquez, N., 1496
Bing, A., 389c
Bingham, D. J., 3561b
Bingham, F. T., 1801, 2951, 4011
Biraghi, A., 2301w, 2388
Birch, E. C., 2774
Birchfield, W., 2858
Birdsell, D. G., 2470
Birk, H., 204
Birkett, L. S., 911, 918, 924
Bishop, C. J., 3471
Bishop, R. F., 2445
Bisset, N. G., 2839i
Bist, N. S., 1233
Bitancourt, A. A., 1812, 4091
Bitters, W. P., 766, 3026k, 3026u
Bittner, C. S., 1117
Bivins, J. L., 356
Bjarsch, H., 195
Bl—, —., 3561e
Black, M., 2115
Blackith, R. E., 2146z
Blackman, G. E., 1909
Blaha, J., 1216b
Blair, D. S., 219c
Blake, M. I., 2799
Blanchet, B., 3031
Blanco, L. C., 1385
Blaney, L. T., 733
Blank, H., 4105
Blanpied, G. D., 1158, 3393
Blasse, W., 157
Blassinsky, —., 660
Blaszyk, P., 1342
Blažek, Z., 3903c
Bleasdale, J. K. A., 9
Blinn, R. C., 1314
Blinovskij, K. V., 1081c
Bliss, L. C., 1550
Blitz, J. F., 3039
Block, S. S., 2605
Blodgett, E. C., 227, 3400f
Blok, J. J., 2441
Blommaert, K. L. J., 116
Blommers, J., 2448c
Blondin, P., 2561
Bloomfield, J. S., 2238u
Blue, W. G., 421
Bluestone, H., 525
Blumenfeld, D., 2545

Blumenthal-Goldschmidt, S., *see also* Goldschmidt-Blumenthal, 2716e
Blumer, S., 244, 337d
Boatman, S. G., 4107
Bobb, M. L., 303, 2305
Bocanegra Salazar, S., 1449, 3693
Bočarova, L. P., 3561f
Bockholt, E. B., 1356
Bócsa, I., 2839j
de Boer, S., 720, 725, 750, 2932
den Boer, W., 3570
Bogatov, V. M., 3791
Bogdanov, I., 1797
Bogdaševskaja, O. V., 3868
Bogorad, L., 50, 3725, 4172
Böhm, G., 3305
Böhm, H., 2426
Böhm, O., 337e
Böhme, H., 1825
Bohn, R., 3180
Bokučava, M. A., 953, 1025, 3162, 3176h, 4157i
Bolay, A., 2387, 2449k, 2449 l
Boles, E. D., 179
Bolhovskih, Z. V., 1686
Bollard, E. G., 14, 152
Bolle-Jones, E. W., 1919, 1920, 1921, 1997j, 3113, 4120, 4121, 4122, 4123
Bolotskij, Ju. S., 2238b
Bolton, A. T., 3509
Bolton, J., 3119, 3120
Bolzani, P., 175
Bond, G., 753f, 1059, 3903d
Bondarenko, V. M., 2812
Bondur, A. I., 2455
Bonifacio, G., 3453
Bonilla, E., 3082
Bonilla, J., 2511d
Bonner, J., 2854, 3856c
Bonnet, J. A., 959f, 3136
Bonnet, P., 819, 2791, 3861
Bonola, P., 3551
Bonvicini, M., 2058 l
Boodley, J. W., 1775, 2893, 2944d
Booher, L. J., 57
van der Boon, J., 506, 1107
Boonstra, R., 1784
Booth, A., 3727
Booth, C. O., 2082
Borah, P. C., 3101
Bordejanu, T., 1092
Bordignon, S., 3459d
Borecki, Z., 70
Borelli, O., 2301a
Börner, H., 3461
Borsos, O., 3932
Borthwick, H. A., 23, 968, 1032, 2872, 3873
Borzini, G., 1316d
Bos, J., 2238c
Bos, L., 2334
Bosch, E., 1309, 2238d, 3561g
Bose. B., 2839k
Bösenberg, K., 1316e
Bosher, J. E., 3510
Boskoop, Proefstation voor de Boomkwekerij, 981
Boss, M. L., 2716f
Boswell, V. R., 2716g
Botham, J. R., 822g, 1840c
Bottini, E., 1020, 2010, 3795d
Botton, H., 4047
Boubals, D., 219d
Bouchet, M., 2319
Bougard, M., 2459
Boulanger, L. W., 3518, 3555, 3561h, 3561i
Bould, C., 46, 142, 194, 223, 1116, 2146e
Bourdeau, P. F., 3252
Bourne, A. I., 3933
Bournier, A., 2433
Bousson, L., 753g
Bouwer, H., 1067
Bovay, E., 3775
Bové, J., 762
Bovey, R., 337d, 3561j
Bowen, T. J., 136, 1146, 2238e
Bowers, C. C., 3575
Bowman, F. T., 2150, 2211
Box, C. O., 1773, 3926, 3983
Boyce, H. R., 1258, 1259, 3527
Boyce, W. R., 2805
Boyle, W. W., 1743
Boynton, D., 1125, 2188
Bozzini, A., 1322
Braak, J. P., 1393, 3708
Brabec, F., 2666
Bradbury, H. E., 1368c
Bradford, G. R., 1803
Bradley, D. B., 2689
Bradley, M. V., 1113
Bradt, O. A., 180f, 2207, 3400g
Bragg, K. K., 3610
Brągiel, I., 2786
van Bragt, J., 3940
Braithwaite, B. M., 3036
Branan, N. C., 3735
Branas, J., 1188, 3475
van den Brande, J., 2393, 2706
Brandes, E. W., 3122
Brands, L. E., 1672h
Brandt, M. W., 181b
Brandtner, E., 2304
Brannon, D. H., 3526
Branthoover, B., 1998p
Brantjes, J. M. J., 3176i
Branzanti, E. C., 1316f
Brase, K. D., 2332
Braudeau, J., 3045
Braun, H., 2363
Braun, H. E., 3233
Braun, O. M., 2239o
Bravenboer, L., 487
Brazell, J. H., 2063
Breakey, E. P., 3524
Breaux, R. D., 3176j
Brédas, J., 887
Bredell, C. H., 1316g
von Bredow, K., 2917
Breglia, G., 180g
Breider, H., 1191, 1216c
Breland, H. L., 557, 583
Bremer, A. H., 1398
Bremer, H., 449, 1384
Brendl, O., Jr., 822h
Brenna, H. K., 3713, 3795e
Brennan, E. G., 3501
Brenner, M. W., 1082b
Breslavec, L. P., 2631
Bretaudeau, J., 219e
Brett, C. H., 3657
Brett, P. G. C., 909, 910
Breuer, W., 2449j
Breviglieri, N., 88, 1187, 1216d, 2010, 2298, 2301b, 2301c, 2301w, 3971, 4038
Brewer, R. F., 1230
Brian, P. W., 2101, 2146f
Briant, A. L., 2534
Bridge, C. J. R., 843
Bridgland, L. A., 3055
Brien, R. M., 2716h
Brierley, P., 685, 1769, 3928, 3996e
Bringhurst, R. S., 1178, 2335, 3422
British Columbia Department of Agriculture, 2017, 3578, 4200b
Broadbent, L., 712
Brock, A. M., 2402
Brody, H. D., 1396
Broekmans, A. F. M., 889
Broertjes, C., 728
Broeshart, H., 890
Brohult, S., 3885
Brook, M., 2662, 3731
Brooklyn Botanic Garden, 1015b, 2146g
Brooks, H. J., 3317
Brooks, R. M., 1089, 3318
Brooks, T. L., 1813
Bross, I. D. J., 2062
Brossard, J., 3452
Broszkus, W., 2448d
Brough, C. R., 2314
Brouhns, G., 959g
Brown, A. G. 1333
Brown, D. S., 3329, 3359
Brown, E. G., 649d
Brown, H. B., 3061
Brown, H. C., 2146h
Brown, L. R., 3681
Brown, M. S., 1180
Brown, P. H., 1081d
Brown, R., 51, 441, 3262

Brown, R. F., 2009
Brown, T. R., 822i
Brown, W. V., 2908
Browning, D. R., 3803
Browning, J. W., 66
Broyer, T. C., 2067
Bruce, A. B., 753h
Bruce, R. B., 3561k
Brückbauer, H., 252, 1243
Brun, J., 3030
Bruni, B., 197
Bruns, V. F., 346, 3588
Brusca, J. N., 758, 1805, 2969
Bruun, K., 3277
de Bruyn, J. W., 1470, 1629
Bryan, O. C., 4014
Bryan, W. H., 1599
Bryant, L. R., 2301e
Bryce, J., 1671
Bryden, J. W., 1271
Bryssine, P., 538
Bua, G., 297
Bubrjak, I. I., 943, 3156
Bucher, R., 1135
Buchloh, G., 1162, 2234
Buchmann, E., 815
Budagovskij, V. I., 97, 3306
Buddenhagen, I. W., 746
Büdel, A., 2065
Budzier, H. H., 55
Bugarevic, G. B., 482
Bujnickij, N. A., 624, 2810
Bukatsch, F., 11
Bukovac, M. J., 400, 401, 437, 492, 667, 714, 2111, 2121, 2520, 3312
Bulat, H., 1081n, 3400v, 3796a
Bull, M. R., 3026 l
Bullis, D. E., 3886
Bundesversuchsanstalt für alpenländische Landwirtschaft Gumpenstein, 3226a
Bünemann, G., 1174
Bunina, N. N., 2968
Bünsow, R., 2107, 2915, 2916, 2917
Buntrock, H., 1372, 3626
Bunyi, A. B., 1867
Buonaffina Parra, G., 3071
Burbank, W., 3400h
Burchfield, H. P., 1316h, 1316i
Burchill, R. T., 257
Burger, A. M., 2801
Burger, J. J., 822j
Burgess, A. H., 619
Burgis, D. S., 2499, 2703, 2704
Burgos, J. C., 1783
Burk, L. G., 544, 3816
Burke, J. H., 1790
Bürke, R. P., 2782
Burkhead, C. E., 1545d
Burle, L., 845, 3044
Burleson, C. A., 3651
Burmistrov, A. D., 1227
Burnett, H. C., 2944e
Burns, E. E., 1529
Buron, P., 2200, 2287
Burr, G. O., 4129
Burrell, A., 3621b
Burrell, A. B., 3342
Burrell, R. C., 2681
Burström, H., 968
Burt, E. O., 3595
Burton, C. L., 2710
Busch, G., 2914
Bussmann, A., 1061
Busson, F., 4156f
Busvine, J. R., 3181
Butani, D. K., 1952
Butcher, F. G., 3006, 3007
Butijn, J., 1107, 3350, 3465
Butler, E. E., 3787
Butler, L. I., 2447
Butler, R. D., 2584
Butters, K. D., 1693
Buxbaum, F., 3182
Buxton, E. W., 1316j, 3689
Byčkova, Z. I., 2565
Byles, D. V., 2780a
Bylterud, A., 3604
Byrde, R. J. W., 261, 266

Cabo Torres, J., 649e, 1654, 3866
Caborn, J. M., 229
Cachan, P., 1900
Cadillat, R. M., 3176k, 3176 l
Cadiz, C. A., 1840d
Cadiz, T. G., 2716b
Cadman, C. H., 70, 1241
Cahoon, G. A., 775, 1841i, 3027r
Čajlahjan, M. H., 2080, 2108, 2146i, 4007
Calcagnolo, G., 1886
Calè, M. T., 3237, 3265
Calhoun, B., 1022
California Department of Agriculture, 2058c
Calle V., H., 883
Calton, W. E., 1667
Cameron, C., 911, 918, 924
Cameron, J. W., 3026s, 4003
Cameron, S. H., 761
Cameroons Development Corporation, 1015c, 4170
Campbell, A. I., 101, 349
Campbell, A. M., 1431
Campbell, F., 3866
Campbell, J. A., 3299
Campbell, J. S., 824, 2673, 2716i, 2741
Campbell, L., 418
Campbell, R. B., 753i
Campbell, R. W., 351, 1192, 2301d, 3585, 3602
Campbell, W., 417
Campbell, W. V., 3657
Camper, H. M., 2687
del Campillo, A., 1989
Canada, Minister of Agriculture, 3203
Canaway, R. J., 1081o
Candela, M. I., 1401
Candussio, R., 1672i
Cane, P., 753m
Canham, A. E., 1081e
Cann, H. J., 959h
Cannon, R. C., 900, 1903, 1905
Cant, R. R., 2448e
Canvin, D. T., 3615
Capinpin, J. M., 877
Capreal, S. H., 2944f
Capria de Fleitas, H., 1194
Caprio, J. M., 1771
Caprioglio, A., 1216e
Capucci, C., 87, 201
Carañgal, A. R., Jr., 3070
Carbonell, C. S., 1997k
Cardus, J., 674
Carey, D., 3176m
Carling, K. E., 1368d
Carlone, R., 71, 82, 83, 125, 1195, 1316k, 2010, 2437, 3554
Carmichael, N., 3119
Carmichael, W. W., 3089
Carmin, J., 2018
Carncross, J. W., 3740
Carne, P. B., 1739
Carolus, R. L., 2573, 3676
Carpenter, J. B., 1808, 2981
Carpenter, W. J., 1678
Carr, D. J., 20, 2098, 2106
Carr, W. R., 4045d
Carra, P., 753j, 2944g, 3996f
Carrington, P. L., 1997 l
Carter, M. V., 271
Caruso, A., 4040
Caruso, V. J., 3858
Carvalho, A., 4079
Casarini, B., 1250, 1252, 2384
Casella, D., 1787, 3293
Casini, E., 3285c
Casini-Ropa, G., 1081f
Caso, O., 1672z
Cassidy, M. A., 2238f
Cassidy, N. G., 4076
Cassin, J., 4015
Castaño A., J. J., 1850
Castellani, E., 836, 4060
Castillo Z., J., 869, 3073, 4086
Catala, R. L. A., 4046
Catalano, M., 772, 1832
Catani, R. A., 4087
Cathey, H. M., 2872, 2876, 2877
Cation, D., 1249, 2353, 2448f
Catlin, P. B., 3399
Catlow, E., 194

Cavalli, L. M., 1455
Cavazza, L., 3285d
Čavčanidze, T. M., 1526
Cawthron Institute, N.Z., 2720, 2806, 3204
Čech, M., 1672j, 1673d
Ceci, D., 1429, 1531
Cegłowski, S. M., 127
Celiščev, S. P., 1043
Centrale Proefstations Vereniging, 1997m
Centrum voor Plantenfysiologisch Onderzoek, Wageningen, 3205
Cetas, R. C., 2556
Cevallos, M. A., 835
Čevrenidi, S. H., 2788, 2837, 2839 1
Ceylon, Coconut Research Institute, 3062
Ceylon, Director of Agriculture, 982
Ceylon Rubber Research Institute, 1910
Ceylon Tea Research Institute, 1959
Chabannes, J., 2309, 3633
Chace, W. G., Jr., 180h
Chadwick, L. C., 3589
Chaffard, M., 2504
Chakrabarty, M. M., 1663, 2828
Chakravarti, A. S., 929
Chakravarty, T., 1846
Chamberlain, E. E., 246, 2331
Chamberlin, F. S., 581, 2766
Chance, B., 4172
Chancellor, A. P., 2454
Chanda, N. B., 1984
Chandler, B. V., 1216f
Chandler, C., 1049, 1707
Chandler, P. A., 1785z
Chandler, W. A., 3794
Chandler, W. H., 3183
Chandra, G., 608
Chandraratne, M. F., 982
Chandy, K. C., 1999c
Chant, S. R., 1858
Chao, T.-S., 4080
Chao, T.-T., 366
Chapas, L. C., 959i
Chapman, C., 3642
Chapman, H. D., 2963
Chapman, L. S., 3143
Chapot, —, 2957
Chappell, D. J., 1181, 2241
Chappell, W. E., 1341, 1347, 2471, 2474, 2490, 2643
Chardon, F., 4126
Charpentier, L. J., 3140, 4156g
Charter, S., 65
Chastain, J. A., 4011
Chattopadhyay, S. B., 1545e
Chaudhri, I. I., 1625
Chaugule, B. A., 1542
Chaves, G. M., 3784
Chawkat, M. J., 2780b
Chen, H. H., 1451
Chen, J. C. P., 4156h
Chen, T.-W., 3511
Chenery, E. M., 1977, 4089
Cherubini, C., 1216g
Chesters, C. G. C., 2662, 3731
Chiba, Y., 589f
Chikubu, S., 1048
Child, R., 959j, 1982
Childers, J. T., 1768
Childs, A. H. B., 4072
Childs, J. F. L., 1840x, 3027a
Childs, W. H., 3458f
Chilton, S. J. P., 934, 3176j, 4137
Ching, F. T., 2099, 2291
Chinloy, T., 1942
Chinnick, L. J., 1739
Chinoy, J. J., 3647, 3648
Chipman, E. W., 3764
Chippindale, H. G., 1118
Chisholm, D., 2445, 2446
Chiurdoglu, G., 1672k
Chlådek, M., 1607
Chmelir, I. C., 226
Chollet, C. C., 2448g
Chona, B. L., 3176n
Chopra, I. C., 1628, 1672r
Chopra, R. N., 3088
Chouard, P., 2146j
Choudhri, R. S., 3101
Choudhury, K. R., 3009
Chouteau, J., 1559
Chow, C. T., 822k
Chow, N.-P., 366
Chowdhury, D. K., 2716j, 2824
Christ, E. G., 180i
Christensen, J. V., 3308
Christenson, L. D., 1281
Christie, G. A., 3176o
Christie, J. R., 2532
Christie, T., 2815
Christoff, A., 2329
Christopher, E. P., 1173, 1425
Chroboczek, E., 1505
Chu, H. T., 935
Chu, M.-L., 4045k
Chumney, W. T., 3847
Chung, L. S., 1501
Ciasca, L., 3458o
Cibes, H. R., 2731
Ciccarone, A., 251
Ciferri, R., 1236, 3512
Čikalov, P. M., 1672 l
Cincadze, D. N., 2280
Ciribì, A., 2301g
Čirkovskij, V. I., 2727, 2728
Čistjakov, V. N., 3292
Citrus Experiment Station, Shizuoka Prefecture, 983
Clark, B. E., 38, 3285e
Clark, F., 540, 548, 549, 3818
Clark, M. R. M., 753c, 753k
Clark, P. J., 1313
Clarke, G. M., 261
Clarke, O. F., 796
Clarkson, V. A., 192, 398
Clausen, C. P., 3216
Clausen, R., 3988
Clauss, B., 3938, 3996g
Clay, D. W. T., 3630
Claypool, L. L., 1115
Clayton, E. E., 2780c, 3856a
Cleary, J. P., 3696, 3935
Clements, H. F., 3135
Cleveland, M. L., 2422
Clevenger, S., 3996h
Clifford, D., 3184
Clifton, C. E., 2058e
Cloninger, C. K., 3657
Clore, W. J., 2301e, 2718n, 3588
Closs, R. L., 3239, 3779
Cochran, G. W., 60
Cochran, W. G., 1017
Cocoa, Chocolate and Confectionery Alliance, 3039
Coconut Research Institute, Ceylon, 3062
Coe, R. R., 1081s
Coggeshall, R. G., 2944h, 3991
Coggiatti, S., 753 l
Coggins, C. W., Jr., 2972
Cohen, D., 2146k, 2658
Cohen, M., 3856d
Cohic, F., 4095
Coit, J. E., 756
Coker, E. G., 1176, 2178
Colbran, R. C., 1423
Cole, C. E., 1086
Cole, F. R., 1626
Cole, J. R., 1672m
Cole, J. S., 577
Cole, M., 3498
Coleman, B. P., 2716k
Coleman, P. G., 1329
Coleman, R. E., 3137
Collier, J., 1912
Collingwood, C. A., 2402
Collins, R. P., 519
Collins, W. B., 134, 2338
Collyer, E., 3561 l
Colonial Pesticides Research Committee, 2019
Colonial Pesticides Research Unit, 2020
Colonial Products Council, 2021
Colquhoun, J. M., 3458q
Colvin, B., 753m
Comelli, A., 1840e
Comin, D., 2621
Comité National pour l'Étude de la Culture Fruitière, Belgique, 2149

The Commercial Grower, 1015d, 1072
Commission for Technical Co-operation in Africa South of the Sahara (C.C.T.A.), 2511e
Committee for Colonial Agricultural, Animal Health and Forestry Research, 2022
Committee of Privy Council for Agricultural Research, 4171
Commonwealth Economic Committee, 3206, 3903e
Commonwealth Mycological Institute, 337f
Commonwealth Scientific and Industrial Research Organization, Australia, *see* C.S.I.R.O.
Commun, R.-L., 3621c
Complin, J. O., 791, 792, 4030
Compton, O. C., 222
Comuzzi, A., 1216h, 3458h
Condelli, F., 68d
Condit, I. J., 1785d, 2944i
Conev, D. T., 2549, 3795f
Conley, C. C., 1318
Conners, I. L., 2358
Connors, C. H., 753n
Consiglio, P., 2301f
Consiglio Nazionale delle Ricerche, 3222
Constable, D. H., 365, 1918, 2480
Constas, A., 1840f
Converse, R. H., 2390
Cook, H. T., 42
Cooke, D., 1696
Cooke, G. W., 2716 l, 3685
Coombe, J., 1087
Cooper, A. J., 490, 1506, 3756, 3795g
Cooper, C., 2238g
Cooper, G. R., 3555
Cooper, W. C., 1793, 4001, 4002
Cooper, W. D., 1572
Cope, F. W., 841, 1855
Copet, A., 1672k, 3903f
Corbera V., J., 3859
Corden, M. E., 520, 521
Córdoba, O. G., 1164
Cordón, J., 873
Cordy, C. B., 2448h
Corke, A. T. K., 274, 3495
Cornejo Aizperrutia, J., 1458
Cornell, R. D., 2944j
Cornell University Agricultural Experiment Station, 3226c
Cornuet, P., 3139
Cornwell, P. B., 852
Ćorović, M., 1633
Corrales Macedo, A., 458, 2713, 3699
Corrivault, G. W., 3723
Corte, A., 249, 1786 l
Corvetto, A., 283
Cosgrove, E. T., 3903q
Cosmo, I., 210, 219f, 219g, 219h, 251, 1216h, 1216i, 2301g, 3427, 3458h, 3458i, 3587
Cosolo-Giussani, A., 3500, 3561m
Costa, A. S., 764, 3795h, 4020
Costa, L., 3971
da Costa Macedo, J. C., 870
Costa-Rodrigues, L., 959k
Costantino, G., 305
Couillaud, P., 2386
Coulson, J. G., 3489
Coulter, L. L., 3572
Coursen, B. W., 3856b
Courshee, R. J., 337g, 1169i
Coury, T., 876
Coutanceau, M., 2148
Couto, F. A. A., 2496, 3608, 3705, 3729, 3784
Covar, R. R., 4069
Cowan, I. R., 920
Cowley, W. R., 3651
Cox, J. A., 1287
Cox, J. E., 1833
Cox, R. S., 276, 423, 512, 534d, 534e
C. P. V. Experiment Station, Indonesia, 2029
Crafts, A. S., 2009, 2511f, 3621d, 4172
Craig, A. L., 3621 l
Crall, J. M., 2578, 3595
Cramer, F. J., 613
Crandall, P. C., 3396
Crane, H. L., 3027k
Crane, J. C., 130, 1113, 1143
Cranfield, W., 822 l
Crang, A., 79, 391
Crawford, D. E., 536
Cree, C. B., 778, 3026z
Creech, J. L., 1672n
Creelman, D. W., 3561n
Črelašvili, M. N., 1804
Crescimanno, F. G., 203, 3336
Cressman, A. W., 1819, 4033
Cresswell, G., 2999
Crisinel, P., 1882
Crnko, J., 2663
Crocker, A. J., 4008
Crocker, C., 535d
Crockett, L. J., 562
Crocomo, O. J., 12
Crombie, W. M., 4107, 4108
Cropley, R., 247, 2335, 3207
Crosbie, A. J., 3039
Crossan, D. F., 517, 2712, 2889
Crovetto, A., 716, 1740
Crowder, J. P., 2140
Crowe, A. D., 3246
Crowley, N. C., 1545g
Cruz-Miret, A., 1906
Cruzado, H. J., 3112
Cselőtei, L., 3757
C.S.I.R.O., Australia, 170, 212, 256, 537, 984
Cuillé, J., 1847, 3029, 3031, 3032, 3231, 4156p
Culbertson, R. E., 394
Culaja, V. I., 2962
Cumber, R. A., 867
Cumming, B. G., 3577
Cumming, W. A., 80
Cunningham, G. H., 2448i
Cunningham, R. K., 4063
Čurakov, A. M., 2448j
Curl, A. L., 3003
Curlee, D., 180j
Curley, R. G., 1073
Curry, G. M., 22
Cutliffe, J. A., 3762
Cutright, C. R., 3520
Cyprus Department of Agriculture, 985, 2023
Czaja, A. T., 617
Čžan, Ž., 2155
Czan Min'-čuan', 3662
Czu, D., 1391

Dacus, A., 4009
Dadant, R., 3080
Daday, H., 27
Dadd, C. V. T., 3795i
Daghistani, I. Y., 4050
Dahling, R., 3456
Dahlmans, H., 2448k
Dahm. P. A., 2009
Daines, R. H., 254, 3501, 3519
Dalbro, K., 105, 2327, 3315
Dalbro, S., 139, 2195
Dalev, D., 2790
Dalmasso, G., 1216j
Dalrymple, D. G., 3379
Daly, J. M., 2831
Dalziel, H. C., 1747
van Dam, J. G. C., 1129
Dana, M. N., 350, 373
Dänhardt, W., 3938
Daniel, L., 3259
Daniel, W. H., 372, 373, 1737
Daniels, F., 968
Danielson, L. L., 1338
Danilov, A. D., 3400i
Danvig, A. M., 3202
Darby, J. F., 2563
Darby, L. A., 3285f
Darley, E. F., 822m
Darling, H. S., 629, 1648, 3884
Darnai, E., 3448
Darpoux, H., 1407, 2351, 2352

Darrow, G. M., 219i, 219j, 219k, 1216t, 1316 l
Dartigues, A., 2313
Das, C. S., 3009
Das, G. M., 4156i
Dastane, N. G., 1936, 1937
Datrut, R., 2301h
Dauple, P., 1369
Davern, C. I., 3856c
Davey, J. B., 2448 l, 3176p
David, W. A. L., 3642
Davidis, U. X., 1205, 2000
Davidson, F. M., 534f
Davidson, H., 2927
Davidson, J. H., 375, 662
Davidson, R. S., 1370
Davies, J. N., 495, 510, 3730, 3750, 3770
Davis, A. C., 2595
Davis, B. H., 2557
Davis, D., 402, 1703
Davis, E. L., 620, 2808
Davis, G. N., 1545p
Davis, J. F., 422, 1632, 3631
Davis, L. D., 1169j
Davis, R. R., 373
Davis, T. A., 3176q
Davison, J. G., 3630
Davydov, A. P., 3661
Dawson, B. C., 959 l
Dawson, R. B., 3996i
Dawson, R. F., 1574, 1579
Day, B. E., 362, 363, 374, 389d, 2511g
Day, M. W., 389e
Deak, J., 1703
Dean, C. E., 540
Dean, H. A., 4025
DeBoer, R. H., 659
Deckard, S., 4016
Decker, G. C., 2628
Dedic, G. A., 1081g
Deep, I. W., 2344
Deetlefs, J. du T., 2999
Degman, E., 2186
Dekanoidze, G. I., 3548
Dekker, J., 2593
Dekker, K. D., 932
DeKock, P. C., 48
Delap, A. V., 3207, 3470
Del Gaudio, S., 219 l, 219m, 219n, 2297, 3458o, 3458p
Delhaye, R. J., 2817
Dell, W., 891
Delmas, J., 1081v, 2203, 2312, 2624
Delphey, C. C., 760
Delso Gimeno, J. L., 3866
Delvaux, A., 1672o
Delvaux, E. L., 2829
Dement'eva, M. I., 2375
Démétriadès, S. D., 32, 455, 456
Demoranville, I. E., 3415
Dempster, C. D., 2132
Dengler, H. W., 744
Denisov, V. F., 2179
Dennison, R. A., 498, 2716t, 3010
Deomano, F. V., 1997n
Depardon, L., 2200, 2287
Derbyshire, D. M., 622
Dermine, E., 1136, 1169k, 1335, 2206
Dernovič, V. V., 1749
De Rosa, M., 3552
Desmarest, J., 2832
Desneux, R., 1997o, 4156j
Desrosier, N. W., 1529
Desrosiers, R., 855, 1849
Dessens, H., 3230
Deszyck, E. J., 2991
Detroux, L., 1335, 1365, 2498
Deuel, H., 1081 l
Deullin, R., 163
Deutsche Akademie der Landwirtschaftswissenschaften zu Berlin, 2043
Deutsche Gartenbau, 2133
Deutscher Pflanzenschutzdienst, 4200c
DeVay, J. E., 3482
Dever, D., 2301n
Devjatnin, V. A., 1152
DeWerth, A. F., 658
Dewey, A. W., 1602f
Dewey, D. H., 164, 180h, 181b, 1174
Dewey, J. E., 2444
DeWolfe, T. A., 1811, 2983, 4022
Dgebuadze, N. K., 3157
Dhingra, D. R., 2839m
Dhingra, S. N., 2839m
Díaz Moreno, J., 855, 4065
Dick, J., 939
Dick, W. E., 964
Dickel, D. F., 1672p
Dicker, G. H. L., 314
Dickey, R. D., 753o, 1734, 2934
Dickinson, D., 1427
Dickson, G. H., 2202
Diessl, G., 3879, 3903g
Dietvorst, F. C., 1302, 2398
v. Dijke, J. F., 2407
Dikshit, N. N., 2146 l
Dilleman, G., 3198
Di Martino, E., 788, 1818
Dimas, A., 2716b
Dimitrov, P., 2254
Dimitrov, L., 3819
Dimond, A. E., 520, 521, 3996j
Dinkel, D. H., 3612
van Dinther, J. B. M., 4048
Dionne, L. A., 2144
Dippenaar, B. J., 4029
Directie van de Landbouw, The Hague, *see* The Hague
Ditman, L. P., 409, 3795j
Dixon, E. M., 622
Dmitriev, A. F., 953
Dobie, N. D., 2354
Dobroljubskij, O. K., 2289, 3442, 3445
Dodge, J. C., 3287, 3403, 3686
Dodillet, H.-J., 399, 1417, 2512, 2569, 3795k
Doehlert, C. A., 219o, 2248
Doepel, R. F., 3490
van der Does, J., 2543
Dogonadze, D. S., 1722
Dolgov, V. F., 98
Dolgušin, D. A., 115
Dolinka, B., 1452
Doll, C. C., 2275, 3586
Doman, N. G., 15
Domes, R., 304, 1316m, 1316n
Dominica Department of Agriculture and Forestry, 4200d
Dominick, C. B., 582, 1590, 3845
Donadoni, S., 553
Donald, R. G., 3053
Donaldson, A. G., 518
Donoho, C. W., Jr., 1112
Doorenbos, J., 3996k
Doran, W. L., 36, 1106
Dore, J., 1478
Dore, W. G., 3283
Dorer, R., 2943
Dorling, M. J., 3741
Dormer, K. J., 745
Dorner, R. W., 3234
Dorr, W., 3848
Dorsman, C., 655, 981
Dotti, F., 133, 3341
Douglas, J., 1097
Douglas, J. R., 2592
Dovaston, H. F., 679
Dowdles, D., 430
Dowler, W. M., 2088
Downes, J. D., 2546, 3606, 3676
Downing, R. S., 2396
Downs, R. J., 23, 3873, 3995
Dowrick, G. J., 2068
Dowson, V. H. W., 809
Doyle, A., 3723
Doyle, D. S., 1528
Doyle, J. J., 3765
Doyle, W. P., 3795 l
Drain, B. D., 1169 l
Drake, M., 503
Drenowatz, M. C., 2719
Drexler, O., 3890
Drijfhout, E., 3710
Drost, A., 3659
Drouillon, R., 878

Drouineau, G., 4191
D.S.I.R., New Zealand, 2041, 2720, 2806
Dublin, P., 1876
Dubois, H., 4156f
Dubrovickaja, N. I., 2970
Dubrovina, A. V., 2570
DuCharme, E. P., 1807
Duffus, J. E., 3795h
Dufrane, M., 896
Dugas, A. L., 3176r
Duggal, S. P., 647
Dugger, W. M., Jr., 1022, 2591
Duich, J. M., 3952
Dullum, N., 3315
Dumas, J., 4051
Duncan, A. A., 534g
Duncan, J. G., 3603
Dunckelman, P. H., 3176j
Dunegan, J. C., 2448m
Dunsmore, J. R., 1997p
Dupaigne, P., 532, 839, 3400k
Duprat, A., 2309
Dupriez, G., 887
Důrasová, M., 1306
Durbin, R. D., 695, 822n
Durmišidze, S. V., 2301i
Durquery, P.-M., 1080
Dürr, H. J. R., 3528
Dustan, A. G., 1344
Dustin, A., 1368k
Duthie, D. W., 361
Dutt, J. O., 534h
Dutt, N. L., 908
Dutta, S. K., 1965, 1970, 1971, 1978, 1979, 1998a, 1998b, 3152, 3176s, 4156k
Dycus, A. M., 2912
Dye, M. H., 1301, 2346
Dymicky, M., 3826
Džalilova, V. M., 2580
Džemuhadze, K. M., 951, 952, 1988

Eady, C. A., 959h
Eaks, I. L., 798, 3398
Ealy, R. P., 2238h
East Africa High Commission, 1015e
East African Tea Research Institute, 1960, 2057, 4142
East Malling Research Station, 965, 966, 3207
Eastwood, H. W., 3026m
Eaton, E. L., 3458k
Eaves, C. A., 166, 176, 2228
Ebeling, W., 759, 3539
Echandi, E., 3078, 3079
Eck, P., 503
van Eck, W. A., 403
Eckert, J. E., 1394
Eckert, J. W., 3398
Edgerton, L. J., 1127
Edgington, L. V., 416, 1545h
Edinburgh and East of Scotland College of Agriculture, 3208
Edney, K. L., 263
Edrozo, L. B., 3797, 3798
Edwards, B. A. B., 579
Edwards, R. I., 2135
Egan, B. T., 3176t, 4138
Egberts, H., 656
Eggenberger, W., 1206
Eggert, F. P., 2226, 3390
Eggert, R., 1120, 1122
Egri, L., 2750
Eheart, J. F., 2552
Ehlers, C. G., 241, 1235
Ehlers, M., 381, 3704
Ehrlich, H. G., 3996 l
Eichholz, W., 743
Eidg. Kommission zur Ermittlung der Produktionskosten der Trauben und des Weines, 1184
Eisenhuth, F., 3458 l
Ela, V. M., 3963
Élant, H., 1840g
El-Azzouni, M. M., 2238i, 3026n, 3176u
El Dine, S. B., 3640
Elgabaly, M. M., 2127
El-Gamassy, A. M., 2944k
El Hinnawy, E. I., 44
Elizondo C., G., 1438
Ellenberger, C. E., 1240
Ellenwood, C. W., 2511h
Elliot, J. M., 2774
Elliott, J. G., 3621e
Elmer, H. S., 1817
El Murabaa, A. I. M., 1482, 2551
El-Ridi, M. S., 2716m
El-Shishiny, E. D. H., 2268
Elting, E. C., 4200z
Elzenga, G., 2839n
Embleton, T. W., 768, 778, 1788, 1789, 3026z, 3999, 4172
Emel'janov, F. A., 3355
Emerson, R., 4172
Emiliani, G., 1256
Emmert, E. M., 1071
Engholm, B. C., 2025
Engledow, R. A., 1169m
English, H., 2372, 3482
Enikeev, H. K., 1095
Eno, C. F., 421, 2562, 3692
Enright, L. J., 2933
Enslin, P. R., 1545i
Entomological Society of Ontario, 2058f
Entwistle, H. M., 3039
Entwistle, P. F., 4156 l
Eremenko, E. A., 2566
Erickson, L. C., 1820, 1821
Erina, O. I., 482, 2667
Ernst, E., 3796o
Eršov, I. I., 1465
Eršov, L. A., 103
d'Ersu, A. P., 2618, 2619, 3388
Ervin, J. O., 2961
d'Escayrac, F., 1997q
Escritt, J. R., 3996i
Essenburg, J. F., 68e
Essex Institute of Agriculture, 1116
Etchells, J. L., 3458e
Ethirajan, A. S., 3177q
Etô, T., 1484
European and Mediterranean Plant Protection Organization (EPPO), 1294, 3561p
Evans, H., 915
Evans, H. R., 1870
Evans, W. C., 3903h
Evans, W. D., 93
Evans, W. P., 2466
Evenari, M., 474, 475, 968, 1545f, 2647, 2649, 2657, 2659
Evenhuis, H. H., 2406
Everett, P., 3996m
Everett, P. H., 3692
Everette, G. A., 2759
Evers, E., 959m
Evison, J. R. B., 68f, 68g
Evréinoff, V. A., 75, 3458m
Eygenraam, J. A., 1297
Ezelarab, G., 2238 l
Ezuka, A., 4148
Ezzat, M. A., 3537

Faas, W. E., 3903w
Faculty of Agriculture, University of Ain Shams, Cairo, 4196
de Faestraets, L., 1365, 2498
Fahey, J. E., 334, 336
Faillet, P., 2467
Fajardo, P. S., 2716n
Fang, S. C., 3618, 3886
Fanning, P. K., 3563
FAO, *see* Food
Farabee, G. J., 3561q
Farrar, L. L., 933
Farres, M., 3996n
Farwell, G., 3176v
Fass, W. E., 613
Fassi, B., 1879
Faulkner, G. J., 2550
Faust, C. E., 2894
Favilli, R., 2716o
Favre, C., 1317i
Fawcett, C. H., 2086
Fazêkaş, I., 1662
Fazio, S., 753p
Feder, W. A., 822o, 3026o, 4045e
Fedjušin, A. V., 2435
Fehling, C., 1899

Feinbrun, N., 753q, 1785e
Feldheim, W., 2714
Fel'dman, A. L., 1533
Feldmesser, J., 822o
Felklová, M., 1602g
Fennah, R. G., 846, 3039
Fennessy, B. V., 2448n
Fenwick, D. W., 3069
Ferenczy, L., 1209
Ferguson, H., 1971
Ferguson, J. H. A., 395, 3285g
Fernand, —., 1245, 3338, 3354
Fernández de Ullivarri, R., 1997r, 1997s, 1997t
Fernando, L. H., 3815
Fernqvist, I., 3357
Ferrand, M., 893
Ferrão, J. E. M., 2430
Ferrara, A., 590, 1603, 1997u, 2781
Ferraris, I. P., 2483
Ferreira, F., 4157h
Ferri, M. G., 3127
Feucht, W., 118, 2175, 2176
Field, K., 649f
Field, R., 178
Fielding, M. J., 4057
Fiester, D. R., 1997v
de Figueiredo, E. R., Jr., 1997w
Fiji Department of Agriculture, 2026
Filippenko, I. M., 1185, 3430
Filmer, R. S., 2301j
Fine, J. M., 2146d
Fischer, F. J., 3285h
Fisher, D. V., 169, 3385, 3389, 3400 l, 3400m, 3561r
Fisher, E. G., 225, 1125, 1219, 1401, 2316, 3468
Fisher, F. E., 787, 3026p, 4045f
Fiske, J. N., 3383
Fiskell, J. G. A., 499, 3286g
Fisken, A. G., 1241
Fjäderhane, A. M., 1675
Flanders, S. E., 3026q
Flegg, P. B., 2603, 2604, 2608, 3795m
Fleischman, A. I., 649j
Flémal, J., 1967
Fleming, C. P., 1155
Fleming, H. K., 1199
Fleming, R. A., 3980
Fleming, S., 3600
Fletcher, R. F., 534h, 3796v
Fletcher, W. A., 1840h, 1840i, 1840j
Flint, H., 688, 2883
Flitters, N. E., 4045g
Floor, J., 34, 92, 1676
Florida Agricultural Experiment Stations, 987
Flowers, J. M., Jr., 1602v
Fluke, C. L., 3532
Foda, H. A., 40
Foda, Y. H., 2716p
Fogle, H. W., 2160, 2208, 2317, 3300
Folch Andréu, R., 649g
Folkes, B. F., 4172
Folley, R. R. W., 59, 2136, 2137, 3741
Fölster, E., 3682
da Fonseca, J. P., 4097
Food and Agriculture Organization (FAO), 2001, 2002, 2839o, 3040, 4200e
Food and Agriculture Organization, Agriculture Division, 865
Foott, J. H., 2448o
Forbes, A. R., 1487
Forbes, I. L., 934, 4137
Forchthammer, L., 1375
Ford, D. H., 337i
Ford, E. M., 2310, 3207, 3470
Ford, H. W., 1800, 3026o, 3026r
Fore, J. M., 3391
Foreman, M. S., 1359
Forest, B., 2146m
Forestry Commission, London, 1671, 4173
Forno, J. D., 3970
Forrest, J. D., 339
Forsberg, J. L., 753r, 3996o
Forshaw, J. E., 3458n
Forshey, C. G., 2192
Forsyth, J., 864
Forsyth, W. G. C., 861, 1859, 3039, 3060, 4156m
Forsythe, H. Y., 3561i
Forte, V., 148
Fortmann, H., 753s, 3232
Foschi, S., 3522
Foster, H. H., 3502
Foster, N. H., 356
Foster-Barham, C. B., 1981, 1997x, 4156n
Fowler, M. E., 2389
Fox, C. J. S., 3561s
Fox, J. M., 2285
Francis, F. J., 1396
Franco do Amaral, S., 1812, 1887
Franke-Lauer, E., 2944q
Frankenburg, W. G., 2778
Franqueira, J. H., 311
Franssen, C. J. H., 1453
Franz, J., 2448p
Franzke, C., 2827
del Frari, H., 1957, 1995
Frazier, N. W., 1242
Frazier, W. A., 398
Free, M., 2003
Freebairn, H. T., 10
Freeman, G. H., 4, 2154
Freeman, H., 2349
Freeman, W. E., 842
Frémond, Y., 3064, 4156o
French, B. C., 2221
French, B. O., 180k
French, C. S., 968
Freshwater, I. T., 3176w
Frew, S., 3400n
Freyre, R. H., 634, 1668
Freytag, H. E., 157
Frey-Wyssling, A., 3829
Frick, K. E., 307
Friedberg, L., 1056
Friedmann, G., 1229
Friedrich, G., 180 l, 2133
Friend, R. J., 3055
Friend, W. G., 1545k
Frierson, J. L., 2937
Friesdorf / Bad Godesberg, Gärtnerische Versuchsanstalt, 1695, 2027
Friesen, G., 3615
Frimmel, F., 1672q, 2729
Frisch-Niggemeyer, W., 589g
Fritzsche, O., 2133
Fritzsche, R., 1124, 1450, 2238j
Fröhlich, H., 414, 2133, 2674, 3627, 3667
Frolich, E. F., 822n, 2948, 4000
Fromow, M. G., 2337
Frost, H. B., 3026s, 4003
Fruit and Vegetable Canning and Quick Freezing Research Association, 3226e
Fruits d'Outre Mer, 163
Fry, P. R., 3732
Fry, W. G., 1468
Fryer, J. D., 3621e
Fu, H. C., 917
Fujikura, T., 2585
Fujita, K., 1806
Fujiwara, A., 68h, 507, 554, 555, 556
Fukuda, —., 2789
Fukui, H. N., 2651
Fukunaga, E. T., 4099
Fukunaga, T., 3370, 3400a
Fukushima, S., 3400o
Fukuto, T. R., 2009
Fuller, R. G., 1370
Fuller, W. H., 1514, 3773
Fulton, J. P., 219p, 337j
Fulton, R. H., 2374, 2379, 2448q
Funk, T., 180m
Furneaux, B. S., 1116
Furner, B. G., 2301k
Furr, J. R., 804
Furuya, M., 1047, 1048

Gaarder, P., 2944 l
Gabovič, V. I., 2277
Gabra, S., 2839p
Gabriel, H. P., 33
Gabrieljan, G. G., 2083

Gac, A., 163, 1168
Gadžiev, T. Ju., 109
Gaebler, O. H., 4200f
Gaie, W., 871
Galbis, J. A., 2730
Galeev, N. A., 2509
Galeone, G., 1229
Gallagher, J. E., 2488
Gallay, R., 1202, 2036
Gallego y Gómez, F., 3897
Galston, A. W., 2592
Galzy, P., 213
van Gammeren, F., 94
Gammon, N., Jr., 216
Gandía Díaz, H., 3106
Gandy, D. G., 2603, 2604, 3795n
Gangolly, S. R., 2004, 3065, 3066
Ganiev, B. Z., 2821
Gaprindašvili, G. V., 2272
Gar, K. A., 3273
Garavini, C., 3965
Garayar, H. N., 3859
Garber, M. J., 2972
Garbuzova, D. A., 621, 626
García Alvarez, R., 3026t
García Andrade, N., 3071
García Cabezón, A., 1840k
Gardiner, B. O. C., 3642
Gardiner, G. F., 967
Gardner, C. A., 649h
Gardner, I. C., 2935
Garg, O. K., 3101
Garg, O. P., 3647, 3648
Gargiulo, A., 1216k
Garjugin, G. A., 120
Garman, P., 1217, 1280
Garmany, H. F. M., 539
Garner, R. J., 95, 96, 2163
Garnier, P., 4156f
Garot, A., 4118
Garren, R., Jr., 1144
Garretsen, F., 182
Garrido, T. G., 3903i
Garris, H. R., 3977
Gartner, K., 2744
Gascoigne, J. A., 3176x
Gasiorkiewicz, E. C., 3921
Gaskins, M. H., 2522
Gaston, H. P., 162, 196
Gaudineau, M., 2622, 2716q
Gäumann, E., 289, 2698
Gavaketašvili, A. G., 2270
Gavrilov, V. G., 1100
Gay-Bellile, F., 2386
Geard, I. D., 273, 1316o
Geisenheim am Rhein, Bundesanstalt für Qualitätsforschung, 4169
Geisenheim am Rhein, Lehr- u. Forschungsanstalt für Wein-, Obst- u. Gartenbau, 4174
Geisler, G., 198, 3429
Geissler, T., 1377, 2682, 3670
Gej, B., 3852
Gelein, C., 2897
Gellatley, J. G., 4026
Gel'man, N. S., 2058h
Gembloux, Station de Recherches de l'État pour l'Amélioration des Plantes fruitières at maraîcheres, 4175
Genève, R., 3474
Genkel', P. A., 4080
Gentilini, L., 210
Gentner, W. A., 3597
Georgala, M. B., 795, 2986
Georg, J. G., 4045h
George, R. A. T., 3714
Georgia College of Agriculture Experiment Stations, 3226f
Georgieva, Ja. M., 1381
Geraldson, C. M., 1378, 2524
Gerber, H., 224
Gerdung, R., 1380
Gérin, L., 3175
Gerlach, W., 1786k, 3996p
Gerling, J., 1785f
Germing, G. H., 3285i
Gerola, F. M., 16
Gerritsen, C. J., 180n, 2238k, 2301 l
Gerritsen, J. D., 1316p
Gertler, S. I., 3536
Getzendaner, M. E., 1368o
Ghana Department of Agriculture, 988, 4176
Ghatge, N., 2839u
Gherghi, A., 1154
Ghillini, C. A., 1053, 1443, 3436, 3783
Ghisleni, P. L., 707, 1545 l
Ghitany, M. Y., 2944m
Ghosheh, N., 1192
Giacometti, D. C., 1795, 1840 l, 4020
Giannotti, O., 1998z
Giard, J., 2839q
Gigante, R., 572, 589h
Gilbert, F. A., 454
Gilbert, J. C., 534i, 3795o
Gilbert, N., 3285f
Gilbert, S. G., 3024
Giles, J. A., 1602m
Giles, J. E., 2705, 3766
Gill, D. L., 1715, 1733
Gillard, A., 2393, 2706
Gillard, S. O., 2716k
Gillespie, H. L., 755
Gillette, D. G., 2221
Gillot, J., 897
Gilmartin, A. J., 1834
Gilmer, R., 285
Gilmer, R. M., 2332
Gilmore, L. E., 561, 1601
Gilmore, T. R., 2588
Ginzburg, B.-Z., 1081h, 2146k
Giovannozzi-Sermanni, G., 2777, 3828
Giraldi, G., 3638
Giussani Cosolo, A., *see* Cosolo
Giusto, D., 219m
Gjaerum, H. B., 1316q
Glass, E. H., 308, 2448r
Glasshouse Crops Research Institute, 496, 989, 4177
Glasziou, K. T., 1081i, 1602h, 3126, 3285j
Gleisberg, W., 90
Glendinning, D. R., 3039
Glocker, K., 753s
Glover, P. M., 1963, 1966, 1979, 1997y, 1997z, 1998a, 1998b, 1999g, 3177x
G[lover], P. M., 3177x
Gluščenko, I. E., 2146n
Gluščenko, K. S., 3323
Gluščenko, N. N., 3874
Gniłka, W., 1673 l
Godbout, F., 1218
Godnev, T. N., 3363
Godneva, M. T., 642
Godwin, M. R., 822w
Goedkoop, W., 631
Goenaga, A., 1316h, 1316i
Goetze, N. R., 372, 373
Goheen, A. C., 2339
Goidànich, G., 234, 237, 3516
Gokhale, N. G., 1971, 1972, 1973
Goldfrank, H., 649i
Goldsberry, K. L., 3914
Goldschmidt-Blumenthal, S., *see also* Blumenthal-Goldschmidt, 474
Goldweber, S., 2966, 3008
Gomes, H., 924
Gomes da Silva, J., 3176y
Gonçalves, E. F., 1892
González, F. F., 1216g
Gonzalez, J., Jr., 1867
González B., J. E., 3693
González Gómez, C., 3897
González Zúñiga, J. J., 2094
Goodall, D. W., 477, 2661
Goodall, G. E., 3026u
Goodchild, D. J., 3856d
Goodchild, N. A., 1974, 3167, 4145, 4147
Goode, J. E., 1116, 3207
Goodey, J. B., 535s
Goodman, A. T., 2035, 4200j
Goodman, R. N., 2088, 2613
Goodwin, T. W., 2073
Gopalachari, N. C., 3808
Gopalakrishnan, R., 2840h
Gopalakrishnan, T. P., 3065
Gorbunova, G. S., 1029

Gordon, S. A., 41
Gorev, L. N., 2282
Gorjainov, M. N., 2925
Gorobec, A. M., 2671
Görög, L., 1257
Gorškov, P. A., 2803
Goršunova, E. A., 1373
Gorter, C. J., 3245
Gortner, W. A., 1908, 3176z
Goss, O. M., 2348
Goss, R. C., 1634, 2839r
Gotan, S., 2718k
Goto, S., 3093
Gottscho, A. M., 2778
Gough, H. W., 1431
Goulben, B., 770
Gould, C. J., 1715, 2902, 3936
Goulden, C. H., 2146o
Govi, G., 337k, 337l
Govindarao, P., 1998c
Gowda, M. H. M., 2944n
Gowder, R. B., 534j, 534k
Graham, C., 2412
Graham, K. M., 518
Grainger, J., 753k
Granhall, I., 3561t
Grant, S. A., 505
Grant, T. J., 764, 1810
s'Gravenhage, *see* The Hague
Gray, R. A., 254, 534l, 1051, 2531
Grecinger, V. H., 3131
Grečišnikov, I. P., 2267
Green, D. E., 712
Green, F. M., 180o
Green, H. B., 3795p
Green, R. J., 610
Greenfield, I., 2511i
Greenhall, A. M., 959n
Greenham, C. G., 27, 1333
Greenham, D. W. P., 1116, 3290
Greenshields, R. N., 1018
Greig, J. K., 534m, 3607
Grešnyh, B. A., 1636
Gressitt, J. L., 3026q
Greulach, V. A., 2105
Grierson, W., 2993, 2994, 2995, 2996, 4035
Griesbach, R. A., 706
Griffin, E. L., Jr., 2835
Griffing, J. B., 874
Griffith, E., 1772
Griffith, R. B., 2780d
Griffiths, L. A., 1862
Griggs, W. H., 1115, 3559
Grigorovič, N. D., 2926
Grigsby, B. H., 345, 2470, 3574
Grillot, G., 3177a
Grimaldi, J., 3050
Grimm, G. R., 2960
Grimshaw, J., 1575
Grisero, V., 1785g
Grišina, G. S., 3242
Grisvard, P., 3962
Groenewold, H., 1267
Grogan, R. G., 1491
Grohs, B., 717
Groja, L., 2010
Grolleau, J., 3458q
de Groote, R., 668
Gros, D., 3064
Grosclaude, C., 268
Grossmann, F., 2702
Groszmann, H. M., 1545m, 4044
Grotta, A. S., 3870
Grove, J. F., 2716a
Groves, A. B., 1316r, 2361, 3493
Groves, G. R., 2016
The Grower and Prepacker, 2058i
Grunewald, J., 1380
Grupšpun, A. S., 1169n
Gruševoj, S. E., 3840
Gualaccini, F., 337m
Guard, A. T., 121
Guba, E. F., 2448s
Guderian, R., 2448t
Guidorzi, C., 148
Guile, C. T., 3902
Guillemenet, R., 1816, 3795q
Guimaraes, F. F., 534n
Guljakin, I. V., 1038, 1039, 2120
Gulline, H. F., 1439
Gunar, I. I., 1031
Gunckel, J. E., 41
Günther, E., 3421
Gunther, F. A., 4034
Günther, H., 645
Gupta, A. S., 1663
Gupta, B., 602
Gupta, B. D., 3142
Gupta, D. R., 3407
Gupta, G. N., 608
Gupta, J. C., 3407
Gupta, S. C., 3407
Gupta, S. R., 2944o
Gurgel, J. T. A., 2715
Gurlev, A. S., 405
Gurtz, R. F., 1545d
Gusejnov, B. Z., 2130
Gusejnov, D. M., 3628
Gusejnov, R. K., 1975
Gusse, J. F., 68t
Guthrie, F. E., 526, 580
Gutiérrez C., H., 959o
Gutschmidt, J., 2586
Guttridge, C. G., 2256
Guyer, G. E., 1497
Guyot, H., 1847, 3032, 3599, 4053, 4156p
Gužev, Ju. L., 3353
Guzman, V. L., 380, 389f, 397, 1353, 1362
Gwirtsman, J., 950
Haag, H. P., 3076
de Haan, P. H., 1604
Haarer, A. E., 959p
Haas, A. R. C., 758, 1805, 2969
Haas, G. J., 649j
de Haas, P. G., 1098
Haase, W., 1782
Habeck, D. E., 3657
Habejšvili, V. V., 1657
Habran, R., 2134
Hachimura, F., 2947
Hack, H. R. B., 509
Hack, J., 3786
Häckl, R., 3879
Haddock, J. L., 2527
Hadinoto, R. N. P. K., 959q
Hadland, J. R. G., 3039
Haegermark, U., 534o
Haenel, H., 3409
Haenseler, C. M., 1479
Haesloop, J. G., 2105
Hafex, M. G. A., 2238l
Hagiya, K., 469, 470, 1732, 3715
Hagler, T. B., 1220
The Hague, Directie van de Landbouw, 986, 2024
Hahn, S., 3733
Haines, R. G., 2443
Haines, W. B., 3099, 4109
Haisley, K., 1497
Haley, W. E., 3140
Hall, B. J., 1073
Hall, C. B., 498, 2716r, 3010
Hall, C. V., 534m, 3185, 3607
Hall, E. G., 1169o
Hall, H. R., 705
Hall, I. M., 1494
Hall, I. V., 2246
Hall, J. L., 3821
Halle, N., 4047
Hallemans, A., 534p
Halliday, D. J., 3129
Halmos, S., 402
de Halperín, D. R., 3026v
Halsey, D. D., 2291
Halstead, R. L., 3774
Ham, A. M., 119
Hamada, A., 3738
Hamada, K., 2585
Hamilton, D. W., 334, 336, 2422
Hamilton, J. M., 3488, 3505
Hamilton, R. A., 1827, 3177b
Hamilton, R. H., 345
Hamilton, R. I., 2909
Hammond, P. S., 3039
Hamner, C. L., 1570, 2091, 2927
Hamner, K. C., 3253
Hamzaev, M. M., 949
Hanaoka, T., 461
Hancock, C. R., 2173, 2326
Handa, D. R., 4140

Handa, K. L., 1628, 1672r
Handobina, L. M., 1476
Hanger, F. E. W., 1677
Hanna, A. D., 853
Hannapel, R., 3773
Hannibal, L. S., 2944p
Hannigan, M. A., 180p
Hannon, C. I., 3026r
Hansen, C. J., 111, 1145, 3316
Hansen, C. M., 3381
Hansen, R., 2944q
Hantelmann, R., 682
Hao, S.-C., 1794
Harada, S., 1962, 1969, 3153, 3154, 3155, 4146
Harada, T., 683
Harborne, J. B., 1785h
Harcourt, D. G., 1545k
Hardcastle, W. S., 2511j
Harder, R., 2107, 2915, 2916
Hårdh, J. E., 1419, 2378, 2685, 2695, 2852
Harding, P. L., 2997, 3002
Harding, R. B., 1803, 2964
Hardman, E. E., 4108
Haritonov, A. F., 219q, 1216 l
Harkness, R. W., 2675, 2949
Harland, S. C., 2255, 3063
Harler, C. R., 3177c
Harmon, F. N., 2339
Harnisch, K., 2564, 3671
Haronska, G., 1308, 3605
Harpaz, I., 3017
Harper, B. J. T., 3867
Harper, C. W., 261
Harper, K. A., 1216f
Harris, D. S., 3621 l
Harris, G., 3400r, 3889
Harris, J. H., 1317p, 3250, 3996q
Harris, M. R., 3637
Harris, O. W., 1211
Harris, R. V., 619, 3207
Harris, R. W., 1145, 3359, 3559
Harris, W. B., 149
Harrison, B. D., 337n, 3561u
Harrison, D. J., 2898
Harrison, F. P., 409
Harrison, T. B., 348, 2238m
Harston, C. B., 3405
Härtel, K., 3660
Harth, S., 3449
Hartley, C. W. S., 3177d
Hartman, H., 1169p
Hartmann, G., 2944r
Hartmann, H. T., 3013, 3316, 3318, 4042
Hartong, B. D., 631
Harvey, C., 3039
Harvey, J. M., 284, 287
Harvey, W. A., 356
Harwood, D. G., 1593
Harwood, L. W., 3039
Hassall, C. H., 1613
Hassan, M. S., 3529
Hassan, M. V., 1992, 3173, 3176b, 4151, 4153
Hassler, F. J., 1596, 1597, 1598, 2770
Hastie, E. L., 1672s
Hatcher, E. S. J., 95, 96, 2163
Hatert, J., 4084
Hatton, T. T., Jr., 3026w
von Hauch, D., 2238n
Hausenbuiller, R. L., 2527
Hausner, M., 219r
Hautke, P., 1641
Havis, L., 3462
Havord, G., 848, 959r, 959w, 3039
Hawaii Agricultural Extension Service, 1015f
Hawaiian Sugar Planters' Association, 1929
Hawker, L. E., 119
Hawks, S. N., Jr., 1602d
Hay, J. R., 3577
Hay, W. D., 3903j
Hayashi, S., 1316s
Hayden, R. A., 1149
Hayes, S. F., 2528
Hayslip, N. C., 512
Hayward, H. E., 4172
Hazu, G., 2921
Head, G. C., 3754
Healey, A. G., 1072
Heatherington, W., 853
Hedden, O. K., 2709
Heeney, H. B., 500, 3762, 3771, 3774
Heggestad, H. E., 589i
Heggli, M., 1316t
Heiber, H., 147
Heidelberg, Staatliche Lehr- und Versuchsanstalt für Gartenbau, 2028
Heikal, H. A., 3177e, 3177f
Heimann, M., 738, 1712
Heinicke, R. M., 1908
Heintze, K., 1457
Heiser, C. B., Jr., 1535
Heitner-Wirguin, C., 2146k
Helgeson, E. A., 2450
Helle, C. F., 902
Helle, W., 3942
Hellyer, A. G. L., 3209
Helms, C. C., Jr., 3595
Helms, J. O., 1067
Hely, P. C., 4026
Hemming, H. G., 2102
Hemphill, D. D., 354, 371, 373, 2461, 2463, 3584
Hemstreet, C. L., 374
Henao Jaramillo, J., 3071
Henderson, M., 2560, 3054
Henderson, R., 3039
Henderson, R. G., 2701, 2721, 2732
Hendricks, S. B., 23, 968, 2147e
Hendrickson, R., 4045i
Hendrix, J. W., 705
Henke, O., 2409
Henkel, A., 3667
Henrard, P., 3077
Henriksen, A., 1081j
Henrion, G., 2134
Henson, W. H., Jr., 1596, 1597, 2770
Herbert, J. T., 1072
Hering, M., 3533
Heringa-Westerhof, A. C., 1082t
Hernández-Medina, E., 1906
Herne, D. C., 2446
Herold, F., 1403
Herrera Vasconez, C., 4156p
Herrmann, R., 1578
Herzmann, H., 248
Heslop-Harrison, J., 1033
Heslop-Harrison, Y., 1033
Hess, D., 2944s
Hess, E. H., 2752
Hesse, C. O., 111
Hessenthaler, W. H., 2138
Heuberger, J. W., 259
Hewitt, E. J., 46, 68i, 1401
Hey, G. L., 2362, 2850
Heydecker, W., 2646
Heydeman, M. T., 2716s
Heyns, A. J., 3561v
Hiam, N. J., 2231
Hibbs, E. T., 1288, 1411
Hibon, J., 767, 1840m
Hicks, H., 2944t
Hicks, W. W., 2118
Hidaka, Z., 541, 542, 543, 1581
Hidalgo, L., 219s
Hield, H. Z., 2972, 2981
van Hiele, T., 2236
Higase, S., 569
Higazy, M. K., 2511c, 3027e
Higgons, D. J., 524
Higinbotham, N., 2147f
Hiki, S., 1466
Hilborn, M. T., 3555
Hildebrandt, A. C., 1571
Hildebrandt, W., 1091
Hilgeman, R. H., 771, 777, 803
Hilkenbäumer, F., 147, 2244
Hill, A. R., 1316u
Hill, A. V., 1586
Hill, C. H., 2403
Hill, R. G., Jr., 3418
Hill-Cottingham, D. G., 534q
Hiller, F., 3285k
Hills, C. H., 3380
Hills, L. D., 3795r
Hilton, R. J., 93
Hilton, R. N., 1921
van Himme, M., 3047
Himson, A., 959s

Hindle, R., Jr., 1173
Hine, R. B., 228
Hirai, T., 1602i, 3839
Hiramatsu, M., 394
Hirano, S., 2315
Hirst, F. C., 4200g
Hirst, H., 3026x
Hirst, J., 1672f
Hirst, J. M., 2357, 3485
Hirst, R. H., 2495
Hiruki, C., 542
Hitchcock, A. E., 950, 2855
Hitchcock, T. S., 2090
Hitier, H., 387, 1558, 1584
Hitz, C. W., 1180
Hleap Felder, T., 4130
Hłyń, M., 123
Ho, F. W., 913
Hoare, E. R., 1069
Hobbis, E. W., 1169q
Hobley, F. W., 959z
Hoblyn, T. N., 2152
Hochstein, F. A., 1615
Hockey, J. F., 2228
Hodge, W. H., 649k, 1785i
Hodges, D., 2061
Hodnett, G. E., 1939, 3130
Hof, T., 1078
Hofer, A. W., 38
Hoffman, M. B., 2238o
Hoffmann, W., 997
Hofmann, E. L., 319, 1274
Hogan, W. D., 389g
Hogard, T. W., 371, 373
Hogg, W. H., 2325
Hoglund, C. R., 3795s
Hogue, D. V., 2534
Holch, A. E., 1034
Holden, M., 851
Holdsworth, R. P., Jr., 388
Hollaender, A., 968
Holland, D. A., 5, 2153, 3290
Holley, W. D., 671, 672, 3914
Holliday, P., 857, 858
Holliday, R., 2529
Hollings, M., 684, 1701
Holloway, J. K., 1368e
Holly, K., 4172
Holm, L., 357, 382, 3590
Holm-Hansen, O., 3272
Holmberg, D. M., 508
Holt, J., 2846
Hölte, W., 2066
Holtzmann, O. V., 4113
Holubek, J., 3877
Homès, J., 37
Homès, M. V., 3039
Homola, J., 1480
Honan, N. D., 3400p
Hondelmann, W., 2146p
Hong Kong, Director of Agriculture, Fisheries and Food, 990, 3226g
Honma, S., 2544
Hoover, M. W., 2716t
Hopfen, H. J., 2002
Hopkins, E. F., 800
Hopkins, W. L., 353
Hoppmann, R., 3671
Hori, Y., 3700
Horiuchi, F., 2449p
Horn, D. H. S., 959t
Horn, E., 3367
Horner, C. E., 628, 649p
Horning, E. C., 2796
Hornstein, I., 2009
Hornung, H., 3856e, 3856m
Horsfall, F., Jr., 2212
Horsfall, J. G., 535h, 2009
Hortenstine, C. C., 3721
Horticultural Education Association, 3210, 4200h
Horton, D. E., 1714
Horton, J. C., 1461
Hosein, I., 4101
Hosny, A., 3546
Hosoi, T., 211
v. Hösslin, R., 2632
Hotin, A. A., 3875
Hough, L., 180a, 180b
Hough, L. F., 219k, 1169r, 3317, 3400q
Hough, W. S., 1299, 2403, 2424
ten Houten, J. G., 2364
Howard. F. D., 2716u, 2716v
Howard, G. A., 1652, 2839s, 3888
Howard, J. W., 3561k
Howard, L. B., 991
Howat, G. R., 862, 3056
Howe, K. J., 2890
Howell, R. W., 3285o
Howland, A. F., 1304, 2440
Howles, R., 514
Howlett, F. S., 84
Hoyt, C. P., 959u
Hoyt, S. C., 337r, 1272
Hseu, C. C., 1902
Hu, H.-L., 1794, 3319
Huang, H., 2679
Hubbeling, N., 431
Hucker, J., 745
Hudek, H. J., 1684
Hudson, B., 2511k
Hudson, J. P., 476, 2005
Hudson, J. R., 1644
Hudson, M. S., 2511k
Hudson, N. W., 1555
Huet, R., 4156q
Huffaker, C. B., 1368e, 1368f
Huffine, W. W., 713
Huffman, J. W., 1268
Hughes, C. G., 4138
Hughes, D. H., 2716w
Hughes, H. M., 1216m
Hughes, J. T., 513
Hughes, N. A., 2795
Huguet, F., 2438
Huisman, H. O., 3694
Hull, H. M., 1325, 1368g
Hulme, A. C., 2216, 2217, 3362, 3369
Hülsmann, B., 3919
Hume, H. H., 969
Humphrey, N., 2006
Humphreys, T. E., 1022, 2591
Humphries, E. C., 2109, 3258
Hun, K., 1391
Hung, L., 2679
Hunnam, D., 2362, 2365, 2366
Hunt, D. M., 180q
Hunt, K. E., 2007
Hunter, A. W. S., 3747
Hunter, J. A., 246, 2331
Hurley, B. D., 557
Hurndell, L. C., 1493, 3795t
Hurt, B. C., Jr., 3351
Hurt, R. H., 2305
Husain, A., 2716x
Hussainy, S. A., 908
Hussey, G. G., 4106
Hussey, N. W., 3795u
Hutcheson, T. B., 560
Hutchinson, A., 2096, 2146q
Hutton, E. M., 2705
Hutton, K. E., 329, 3483, 3494
Hutton, R. G., 960i, 1060
Huyke, A., 3177w
Huyskes, J. A., 2716y
Hwang, Y.-J., 1904

Iacopini, P., 189, 1545n
Ibbett, W. C., 753t
Ignat'eva, I. P., 2880
Iida, S., 507
Iijima, T., 52
Ikeda, N., 609
Ikeda, W. S., 898
Ikegaya, K., 1976, 1998e
Ikonenko, T. K., 2686
Ildis, P., 163, 2618, 2619, 3388
Il'in, G. S., 3824
Ille, C., 2780q
Illinois Agricultural Experiment Station, 991
Imle, E. P., 2944u
Imperial College of Tropical Agriculture, Trinidad, 4200i
Inaba, T., 1962
Inako, Y., 2585
Inden, T., 1374
Indian Central Sugarcane Committee, 1014
Indian Coffee Board, 959v, 1868
Indian Council of Agricultural Research, 3186, 3211
Indian Tea Association, Tocklai, 1961
Indonesia, C.P.V. Experiment Station, 2029

Ingersent, K. A., 393
Ingham, S., 1563
Inglis, S. D., 3285j
Inman, R. E., 2831
Innes, R. F., 920, 1941, 1942
Inoue, H., 211
Inoue, T., 3702
Institut pour l'Encouragement de la Recherche scientifique dans l'Industrie et l'Agriculture, Brussels (I.R.S.I.A.), 993
Institut National pour l'Étude Agronomique du Congo Belge (I.N.É.A.C.), 2058j, 3097, 3212
Institut des Recherches sur le Caoutchouc en Indochine (I.R.C.I.), 1911
Institut de Recherches pour les Huiles et Oléagineux (I.R.H.O.), 4178
Institute of Park Administration, Reading, 1674
Instituto Agronômico do Norte, Brazil, 3177g
Instituto Nacional de Investigaciones Agronómicas, Madrid, 2030
Instituut voor Toegepast Biologisch Onderzoek in de Natuur, Arnhem, 2058k
Instituut voor Tuinbouwtechniek, Wageningen, 992, 2031, 4179
Inter-American Institute of Agricultural Sciences, Turrialba, Costa Rica, 1998d
International Commission for Mushroom Science, 2600
International Commission for the Nomenclature of Cultivated Plants, 2146r
International Potash Institute, 2008
Ioffe, M. D., 1785k
Iowa, Division of Agriculture, State College, 2032
Iral, P. T., 1389
Ireland, Northern, *see* Northern Ireland, Republic of, Department of Agriculture, 3400j,
Ireland, Republic of, Minister of Agriculture, 4200t
Irwin, R. W., 2448u
Isaac, I., 697
Ishigaki, K., 1998e, 3160
Ishii, M., 1785j
Isoda, R., 3719
Issekutz, L., 1289
Istituto di Allevamento Vegetale per la Cerealicoltura, Bologna, 2058 l
Istituto Nazionale per il Commercio Estero, 1216n
Itakura, T., 2851
Itagi, T., 1466
Ito, H., 424, 1399, 1418, 2575, 3669
Ito, K., 461, 724
Itoi, S., 428
Ivanko, Š., 2589
Ivanoff, D., 754k
Ivanoff, S. S., 534r, 534s
Ivanov, S., 643, 644
Ivanova, T. M., 3655
Ivanova, Z. I., 2168
Ivanovskij, N. P., 558, 2733
Ivasa, —., 2789
Ivens, G. W., 2479
Iwakiri, B. T., 1115
Iwata, M., 3720
Iyer, G. C., 1917
Izakov, F. Ja., 2571
Izard, C., 387, 1054, 1584
Izmajlov, A. F., 730
Izrail'skij, V. P., 516

Jacks, H., 1313
Jackson, A. A., 1368d, 1471, 1728, 3795v
Jackson, G. C., 3107
Jackson, W. A., 1058
Jacob, A., 4158
Jacob, F. H., 1316v
s'Jacob, J. J., 1317e, 2449c
Jacoboni, N., 180r, 1316w, 2328
Jacobs, A., 1605, 1670, 2849
Jacquemin, H., 3059
Jain, S. C., 3177h
Jaivenois, A., 2464
Jakobs, H., 4066, 4081
Jakovlev, M. S., 1785k
Jakovleva, V. A., 1779
Jakovuk, A. S., 2722
Jalihal, K. A., 2780e
Jamaica, Banana Board, 3028
Jamaica Department of Agriculture, 1015g, 4180
Jamamoto, —., 1434
James, B. L., 3589
James, W. O., 2944v
Jammar, M., 3903f
Jan, S., 2955
Janežič, F., 2644
Jang, R., 3425
Jank, H., 681
Jankiewicz, L., 70
Jánossy, A., 2033
Janson, H. W., 2449n
Janýška, A., 1447
Jaques, R. P., 3561s
Jaramillo J., A., 822p, 3026y
Jarman, R. T., 3561w
Jarrett, R. M., 142
Jary, C. L., 619
Jaska, R. C., 658
Jasmin, J. J., 384, 2489, 3568
Jayaweera, D. M. A., 1611
Jazvickij, M. N., 970
Jeanneau, Y., 392
Jeff, A. E., 1685, 1717
Jeffers, W. F., 295
Jeffrey, A. G., 3285 l
Jeffrey, J. G., 3903v
Jeffrey, R. N., 2737
Jehn, A., 2245
Jenkins, J. M., Jr., 534t, 1785 l, 3763
Jenkins, P. T., 1251, 2369
Jenkins, W. R., 3856b
Jenkinson, J. G., 417
Jennen, A., 3903k
Jenny, J., 1222, 1317i
Jensen, D. D., 1316x
Jensen, F. L., 3543
Jensen, J., 2716z
Jensen, S. G., 2909
Jeppson, L. R., 790, 791, 792, 1817, 2988, 4028, 4030
Jepsen, H. M., 3308, 3496
Jermoljev, E., 1239, 1643
Jernstedt, M. L., 3556
Jerome, S. M. R., 3499
Jersey States Experimental Station, Howard Davis Farm, Trinity, 994, 2034
Jesser, M. J., 791, 792, 4030
Jezek, R. E., 822q
Jha, H. C., 937
Jiménez, F. A., 1608
Joe, B., 3996r
Joglar-Rodriguez, F., 1580
Johansen, C., 2186
Johansson, E., 3313, 3469
John Innes Horticultural Institution, 4181
Johns, H. K., 219t
Johnsen, J. K., 1498, 1545o
Johnson, A. G., 2550
Johnson, C. M., 1082x
Johnson, G. V., 2067
Johnson, J. C., 445, 2948
Johnson, K. E. E., 403, 422
Johnson, R. B., 2989, 2990
Johnson, S. P., 3636
Johnson, W. H., 1596, 1597, 2770
Johnson, W. T., 317
Johnston, A., 901, 3108
Johnston, D. A., 3777, 3780
Johnston, S., 2247
Jolly, A. L., 4156r
Jolly, G. M., 2153
Jones, A. H., 3395
Jones, E. L., 1081k
Jones, E. M., 3187
Jones, G. D. G., 2818
Jones, G. L., 3800
Jones, H. A., 1545p, 2717a

Jones, I. D., 3345
Jones, J. L., 1119
Jones, J. N., Jr., 2738
Jones, R. L., 26
Jones, S. T., 462
Jones, T. A., 848, 959w
Jones, W. W., 768, 778, 1788, 1789, 1801, 2964, 3026z, 4172
Jonev, S., 2383
de Jonge, P., 1926
Jonkers, H., 412, 3423
Jordan, H. V., 3807
Jordan Ministry of Agriculture, 2035, 4200j
Jordović, M., 239, 2333
Joshi, B. G., 1589
Joshi, G. V., 1672g
Joslyn, M. A., 3796k
Joubert, C. J., 3528
Joubert, G. F., 2992
Journal of the Science of Food and Agriculture, 46
Joux, J.-L., 1169s
Judel, G. K., 1082n
Judinceva, E. V., 1038, 1039, 2120
Judkins, W. P., 2530, 2717i
Jung, J., 1082n, 1785m
Junges, W., 2064
Junošev, V. K., 2780f
Jurd, L., 3005
Jusuda, —., 2789

Kaars Sijpesteijn, A., 2593, 2594
Kaatz, M., 2564
Kabeel, M. T., 2945m, 2945n
Kadam, B. S., 1552
Kagawa, A., 2664, 3737
Kahn, A., 3234
Kahn, H., 2641
Kaldewey, H., 703
Kalemkiarian, P. H., 3862
Kaliappan, R., 1169t
Kalinkevič, A. F., 2122
Kallauch, W., 2870
Kalmykov, S. S., 2301m
Kalra, A. M., 940
Kalyanasundaram, R., 2697
Kamemoto, H., 1785n, 2863, 2891
Kamimura, S., 2717p
Kamson-Rappaport, M., 2660
Kananadze, —., 1189
Kano, K., 530
Kanoo, T., 1969
Kanoria, T. D., 3145
Kansas Agricultural Experiment Station, 3226h
Kantack, B. H., 3739
Kapelev, I. G., 2516
Kar, K., 1948
Karabanov, Ju. V., 2813
Karnatz, H., 1225, 2166, 2323, 3344, 3347
Kárpáti, Z., 3228
Karpovskaja, S. H., 516
Kartha, A. R. S., 647, 1673g, 2823
Kassab, A., 3640
Kassanis, B., 684
Katamadze, E. I., 208
Kato, T., 1399
Katsuda, Y., 3894
Kattan, A. A., 1534
Katulska, C., 1105
Katyal, S. L., 2004
Katzfuss, M., 107
Kaufman, J., 177
Kaupke, C. R., 4042
Kavanagh, F., 3285m
Kawaguchi, T., 1786n
Kawai, S., 1976, 1998e, 3160
Kawamura, S., 2717b
Kazakova, A. A., 2615
Kazarjan, V. O., 2079
Kaz'min, G. T., 2238p
Kearns, H. G. H., 324, 325, 337o, 337p, 826, 832
Keays, J. W., 1323
Kebby, R. G., 3026m
Kedrov-Zikhman, O. K., 3722
Keep, E., 2158, 3207
Kefford, R. O., 3611
Kehr, A. E., 462, 1461
Keller, P., 1081 l
Kellogg, C. E., 2842
Kelly, R. A., 3795w
Kelman, A., 2716x
Kelsheimer, E. G., 408, 753u, 2879, 3961
Kemmerer, H. R., 3996s, 3996t
Kemp, H. T., 1370
Kemp, W. T., 3838
Kempthorne, O., 6
Kendrick, J. B., Jr., 2009
Kennard, W. C., 634, 1655, 1668
Kennedy, J. S., 2082
Kennedy, W., 301
Kenneth, J. H., 4159
Kent, M. J., 3176z
Kenten, R. H., 1545q, 3580
Kenworthy, A. L., 1784, 3414, 3447
Kenya Coffee Board, 4077
Kenya Department of Agriculture, 995, 1015h, 4182, 4200k
Kepner, R. A., 1395
Kepner, R. E., 2302d
Kerr, S. H., 2857, 3961
Kerr, T. W., 715
Kessler, B., 1147, 2093, 3530
Kesteren, State Horticultural Advisory Service, 1083
Kesterson, J. W., 4045i
Keyworth, W. G., 1524
Khan, A. R., 919
Khan, K. F., 1991
Khan, M.-u.-D., 649 l
Khan, M. S., 2956
Khandige, S. B., 3177i
Khanna, K. L., 928, 929, 938, 959x, 960r, 1943, 1997b, 1998f
Kho, Y. O., 3708
Khot, B. D., 1542
Kidd, D. A. A., 3869
Kido, H., 3540
Kidson, E. B., 2692
Kienholz, J. R., 2342, 3561x
Kiermayer, O., 1045
Kieser, M. E., 183
Kiewnick, L., 589e, 589j
Kilby, W. W., 822q
Kilpatrick, D. T., 3400r
Kimberley Research Station, Western Australia, 4183
Kimura, C., 3400t
Kimura, M., 2238q
Kincaid, R. R., 583
King, J. R., 2989, 2990
King, K., 4156s
King, K. M., 1487
King, L. J., 1672t, 3744
King, N. J., 907
Kinman, M. L., 649m
Kipiani, R. Y., 3273
Kiplinger, D. C., 670, 2873, 2899, 2900, 2920, 2943, 3993
Kirby, A. H. M., 2399, 2439
Kirk, E. W., 38, 3285e
Kirkbride, J. W., 1545d
Kirkham, D. S., 260
Kirkpatrick, J. D., 1125, 2316
Kirton Experimental Husbandry Farm (N.A.A.S.), 2905
Kitajima, H., 801
Kitson, J. A., 3400s
Kivilaan, A., 3931
Kjaer, A., 3197
Klämbt, H.-D., 2243, 2244, 3410
Klapal, I., 1672u
Klapij, R. P., 3743
Klatt, F., 2133
Klečkovskij, V. M., 1081m
Klein, E.-K., 1561
Klein, S., 1490
Klimczak, Z., 2536
Kling, E. G., 2944w
Klingbeil, G. C., 2301n
Klinger, J., 318, 2411
Klingman, G. C., 1348, 3579
Klinkowski, M., 1785o
Klitsch, C., 3879
Klos, E. J., 2345, 2373
Klotz, L. J., 798, 1811, 2983

Klotzsche, C., 2442
van der Knaap, W. P., 3046
Kneipp, O., 736
Knight, D. E., 1524
Knight, F. P., 1677
Knight, M., 1427
Knight, R. L., 3207
Knjazeva, A. M., 3176h
Knjazeva, L. A., 3896
Knoepfler, N. B., 2834
Knoesen, J. G., 646
Knorr, L. C., 765, 1807, 3027a
Knowles, P. F., 3904e
Knowles, R. H., 752
Knowles, W. H. C., 3119
Knudson, L., 2912
Knuth, Count, 1090
Knyš, A. N., 3665
Kobayashi, A., 211
Kobel, F., 3337
Kobjakova, A. M., 467
Koch, E. C., 2210
Koch, H., 3561y
Koch, O. G., 1081g
Koču, V., 1092
Kodama, C. R., 1742
Koek, P. C., 2856, 3930, 3942, 3966, 3979
van Koersveld, E., 1316y
Kofranek, A. M., 1688, 2865
Koga, K., 3370, 3400a
Kohl, H. C., 1688
Kohl, H. C., Jr., 2865
Koike, M., 817
Kojima, H., 1484
Kol'cova, E. V., 1094
Kolesnikov, P. A., 612
Kolesnikov, V. A., 1130, 1169u, 1216o
Kolomiec, I. A., 1138
Kolpikov, D. I., 3285n
Koltunov, V. F., 108
Komarov, I. A., 727, 2939
Komissarov, V. A., 2616
Kon, K., 3400t
Konakahara, M., 769
Koncevoj, M. G., 457
Kondarew, M., 2295
Kondo, I. N., 2324
Köniğer, M., 1311
Konlechner, H., 209, 1340, 2301o
Kononkov, P. F., 2670
Konovalov, I. N., 1215
Konstantinov, A. V., 3400u
Konvička, O., 1412, 1413, 1459
Konzak, C. F., 41
Koontz, H., 2123
van Koot, Y., 2684
van Kooten, A., 1545b
Kořenský, F., 1306
Kormos, J[ózsef], 1545r
Kormos, J[ózsefné], 1545r
Kornberg, H. L., 1672v
Korneva, E. I., 1631
Korohoda, J., 1428
Koroleva, N. I., 1298
Kosar, W. F., 1489, 2944x
Kosmodem'janskij, V. N., 1551
Košová, V., 1607
Kostić, B., 269, 270, 2367
Kostina, K. F., 2239d
Kosugi, K., 729, 1708, 2895
Kothari, S. S., 3145
Koto, M., 1802
Kotrlá-Hapalová, M., 630
Kott, S. A., 1368h
Kott, V., 1169v
Kotte, W., 3188
Koula, V., 1306, 1647
Kovàcs, A., 3561z
Kovalev, A. A., 3444
Kovalev, N. V., 104, 122, 3291, 3323
Koverga, E. L., 4012
Koyamu, K., 956, 1999s, 3176a
Kozłowska, A., 3831
Kozma, P., 1200, 3431
Kozová, J., 1386
Kraevoj, S. Ja., 1027
Kragtwijk, C., 3942, 3948
Kramer, A., 1543
Kramer, F. L., 2839t
Kramer, J. C., 2690
Kramer, M., 488
Kramer, P. J., 1550
Kramer, S., 3301, 3334
Krapf, B., 1226
Krasnokuttskaja, S. V., 2264
Krasnovskij, A. A., 1081q
Krastina, E. E., 1031
Krauja, A. E., 2126
Krehl, S., 3026h
Krenke, A. N., 2970
Krentos, V. D., 330
Krestensen, E. R., 2412
Kretchman, D. W., 2318, 3560
Kreutz, W., 1488
Kribben, F. J., 2574
Krickl, M., 459
Kriegler, P. J., 1316z, 2448v, 2992, 3523
Krijgsman, H. K., 160
Krimbas, B.-D., 1205, 3478, 3562a
Krishnamoorthi, T., 1552
Krishnamurthi, M. N., 1672w
Krishnamurty, I. V. G., 3856f
Kristensen, H. R., 1785p
Kristoffersen, T., 1697
Kříž, J., 1642, 1647, 3883
Kröber, H., 2363
Krober, O. A., 3285o
Krödel, F., 2517
van der Kroft, W. G., 3673
Kroll, U., 1346
Kronenberg, H. G., 182, 1216p. 3458r
Kroontje, W., 2732
Krotkov, G., 1577
Krotova, O. A., 396
Kroulik, B., 3877
Krüger, H., 2502
Krüssmann, G., 753s, 971
Kružilin, A. S., 1473, 1474
Krylov, A. V., 1838, 3243
Kubik, B. M., 1390
Kublanovskaja, G. M., 2580
Kubo, T., 651
Kühnel, W., 1368i
Kuiper, K., 1317e, 2449c, 3710
Kuitert, L. C., 589k, 2931
Kulikova, R. F., 1140
Kulikovs'ka, M. D., 2554
Kulp, J. L., 3795x
Kundu, B. C., 3903 l
Kunitake, G. M., 1785q
Kunz, E., 466
Küppers-Sonnenberg, G. A. 3795y
Kuppuswami, B. S., 534u, 1840n
Kuppuswamy, K. P., 1748, 1786a, 2919
Kuraoka, O., 231
Kuraoka, T., 779
Kurdjum, Je. L., 2725
Kurihara, T., 568
Kurki, L., 2648
Kurnakov, B. A., 649n
Kurosawa, M., 554, 555, 556
Kursanov, A. L., 3270, 4149
Kurtz, E. B., Jr., 3746
Kurtzman, R. H., Jr., 575
Kurup, C. K. R., 2739, 2740, 3813, 3814
Kušnirenko, M. D., 2169, 2179
Kušnirenko, S. V., 3748
Kutschinski, A. H., 1368o
Kuykendall, J. R., 771
Kuzel, N. R., 3285m
Kuzin, A. M., 3268
Kuznecov, A. V., 534v
Kuźniar, K., 1123
Kyle, W. T., 2978

van der Laan, P. A., 3224
Labanauskas, C. K., 1788, 1789
LaBelle, R., 2224
Lachover, D., 2117
Lacson, M. V., 2483
Ladarija, J. N., 773, 4018
LaDue, J. P., 4031
Lafon, J., 2386
Lafon, R., 2622, 2716q
Lagasse, F. S., 820
Lagerwerff, J. V., 3263
La Hulpe, Station Provinciale des Recherches Scientifiques en Viticulture, 1182
Laíns e Silva, H., 959y, 1873

Lake, J. V., 3795z
Lakon, G., 1081n, 3400v, 3796a
Lakshmanan, V., 534k, 1546r, 1763
Lakshmikantham, M., 1998g
Lal, M., 2112
Lalatta, F., 135, 150, 1141, 3341
Lalatta Ronzoni, G., 3341
Lamb, J., 1985, 1986, 1987, 4063
Lamb, K. P., 1062
Lambert, E. B., 453, 2610, 2717c
Lamouria, L. H., 2296, 4042
Lanchester, H. P., 1263
Lanckow, J., 2133, 2513
Landbouwkundig Tijdschrift, 3267
Landbruksteknisk Institutt, Vollebekk, Norway, 2448w
Landrau, P., Jr., 942
Lane, E. V., 1661
Lane, G. R., 2584
Lang, A., 1785q, 2103, 2104, 2146s
Lange, A. H., 825, 1741, 4113, 4114
Lange, W. H., 2717d
Lange, W. H., Jr., 2548, 3562r
Langer, R. H. M., 1081o
Langford, M. H., 4117
Langhans, R. W., 721, 1716, 1785r
Langston, R., 1513
Laning, E. R., 1319, 1320
Lantz, E. M., 1431
Lantz, H. L., 1355, 1738
Lapins, K., 3302
LaPrade, J. L., 1347, 2474, 2732
Lapšina, L. I., 2526
Large, J. R., 290
La Rotonda, C., 1503
de Laroussilhe, F., 532, 3029
Larsen, P., 68j
Larsen, R. P., 3447
Larson, R. E., 2452
Larter, L. N. H., 3039
Larue, P., 1840o
Laske, P., 2146t
Latimer, L. P., 1122
Latimer, P. H., 1602m
Latuszynski, G., 2780g
Lauenstein, A., 2514
Laurencot, H. J., Jr., 3967, 3968
Laurente, V. R., 1389
Lausanne, Stations Fédérales d'Essais Agricoles, 2036
Lautz, W. B., 589i
Lavabre, E. M., 3039, 3084
Lavalleye, M., 1365, 2498
Lavie, D., 2794
LaVine, P. D., 219u
Lawalrée, A., 1015i, 4200 l
Lawes Agricultural Trust, 4188
Lawrence, H. H., 1070
Lawrence, W. J. C., 1785s, 1785t, 2005, 3996u
Laws, E. Q., 649f, 1648
Laws, G. W., 1072
Lawton, K., 3631
Lazar, V. A., 3285p
Lazzaro, O., 3285q
Lea, J. D., 1330
Leach, L. D., 463
Leach, R., 833, 1854, 4058
Leach, W., 439
Lebedeva, L. Ja., 2261
Leben, C., 1081p
Leblond, C., 163, 1824
Leblond, D., 3785, 3944
Lecat, P., 45
LeCompte, S. B., Jr., 1537, 2545
Ledin, R. B., 884, 954, 3177j
Lee, F. P., 1785u, 1785v, 4160
Lee, J. B., 1432
Lee, L. A., 1602 l, 3858
Lee, O. C., 2485, 2486
Lee, R. E., 1785w
Leemans, J. A., 972
Leete, E., 566, 1672x, 3823, 3867
Lefering, T. W. L., 2579
Legg, J. T., 2814
Legge, J. B. B., 1602j
Le Gloru, P., 3400w
Legrain, J., 4200 l
Leh, H.-O., 1519
Lehoczky, J., 3709
Lehr, J. J., 3707
Leiderman, L., 1886
Leigh, D. S., 3494
Leiser, A. T., 2143
Leitz, F. H. B., 1672x
Lekve, O., 2133, 3761
Lelakis, P., 2283, 2301p
Lellis, W. T., 3049
Lemaistre, J., 1368j
Leman, W. M., 1371
Lenski, I., 2944y
Lentz, C. P., 1076
Lenz, H., 1781
de Leon, R. G., 1545s
Leonard, C. D., 823b, 4013
Leonard, E. R., 3754
Leonard, O. A., 3621j
Leone, G., 3781
Leone, I. A., 3501
Leonova, T. G., 3895
Leont'eva, M. N., 3294
Leopold, A. C., 1709, 2084, 4172
Lerche, K., 3600
Lescano Alva, M., 1998h, 3111
Łęski, R., 315
Leszczakówna, W., 2826
Letham, D. S., 3244
Letouzey, R., 600
Levadoux, L., 2260
Levett, R. L., 959z
Levin, J. H., 162, 196, 3381
Levisohn, I., 2146u
Levitt, E. C., 3027b, 4045j
Levitt, J., 1030
Levy, L. W., 633, 649o, 3893
Leyvraz, H., 1202, 1216q
Li, D.-S., 1660
Liard, O., 3356
Libbert, E., 2116
Liberalli, C. H., 3863
Lichtenstein, E. P., 1315
Lider, L. A., 2271
Lieberman, M., 2218
Liebi, W., 1704
Liebster, G., 2205, 2420
Liedtke, G., 3704
Liefstingh, G., 1913, 1914, 1998i, 3116
Light, W. I. St. G., 420, 1409
Lillard, J. H., 2738
Lilleland, O., 2210
Lilov, D. C., 3434
Limasset, P., 1582
Lime, B. J., 1840p
Lin, K.-H., 4045k
Lincoln, R. G., 3253
Linder, P. J., 2092
Lindstrom, R. S., 667, 690
Ling, W.-F., 3997p
Lingle, J. C., 508
Linn, M. B., 3645
Lipp, A. E. G., 2661
Lipp, L. F., 652
Lisanti, L. E., 772
Lisicyn, D. I., 3285r
Lisovskij, G. M., 601
Lister, R. M., 3039
Litvin, F. F., 1081q
Litvinenko, A. I., 1028
Litvinenko, I. I., 2812
Litvinov, M. A., 3903m
Litvinov, P. I., 2278
Lityński, M., 1383
Liu, H. P., 935
Liverman, J. L., 3746
Livingston, G. A., 2085
Liwerant, J., 1223
Ljašenko, N. I., 3996v
Lju-Juj-Jan', 3458x
Ljukova, L. A., 2525
Ljukšenkova, E. Ja., 1621
Lladoc, J. B., 4156t
Lloyd, D. C., 4045b
Lloyd, H. A., 2796
Lloyd, N. C., 337q
Lloyd, P. J., 517, 2889
Lochmann, H., 4059

Lock, G. W., 3878, 3903n
Lockhart, C. L., 3506
Lockhart, J. A., 28, 1441, 2854
Lockwood, J. L., 3282, 3561q
Lodi, G., 3177k
Loebenstein, G., 2665
Loerch, K. A., 358
Loewel, E. L., 168, 1091
Loewus, F. A., 3285s, 3425
Loginova, T. Ja., 2571
Loh, C. S., 922
Lohmeyer, V. K., 1286
Löhrke, L., 140
Loizides, P. A., 2023, 3441
Long, C., 534f
Long, F. R., 3996w
Long, M. I. E., 3772
Long, W. G., 3002, 3095
Long Ashton Agricultural and Horticultural Research Station, 1015j
Longman, K. A., 3320
Loo, T. G., 4081
Loomis, N. H., 3458s
López Cristóbal, U., 1317a, 1527, 2341, 2427
Lopez Gonzalez, J. de D., 3285t
López Mendibelso, A., 1445
Lord, W. J., 219v
Lordello, L. G. E., 2707
Lorentz, P., 3996e
de Lorenzo, F., 207
Loring, H. S., 1572
Lorz, A. P., 535q
Lothian, T. R. N., 753v
Lou, Č., 2888
Louvet, J., 1407
Lovatt, B. A., 3458t
Lovitt, D. F., 2448q
Lowig, E., 3726
Lowndes, D., 2944z
Lownsbery, B. F., 111, 294, 2392
Lubani, K. R., 3645
Luc, M., 868
Lucas, G. B., 1585
Lucas, R. E., 1632
Lucenda Conde, F., 2128
Luchini, R., 3796b
Łucka, M., 1171, 1216r
Lucke, R., 3326
Luckwill, L. C., 183, 326
Lučnik, N. V., 2119
Luddington Experimental Horticulture Station (N.A.A.S.), 1001
Ludergnani, G., 67
Lugeon, A., 2165
Lugo-López, M. A., 1553, 1906
Luimes, B. J., 592
Lundstad, A., 1746
Lunt, O. R., 1681, 1688, 2865, 3996x
Lutz, J. A., Jr., 2717e
Luyten, I., 2903
Luz, N. K., 1545t
Lužeckij, S. N., 2288
Lyall, L. H., 2717f
Lyle, E. W., 2922
Lynch, S. J., 2966, 3027h
Lyon, C. B., 2361
Lypa, A. L., 1016
Lysander, M., 1896

Maassen, H., 2448x
Maatsch, R., 682, 737, 2892, 3909
McAlister, D. T., 2717g
McArdle, F. J., 43, 2370, 2544
Macari, A., 4156u
McAteer, J. E., 2978
MacAulay, W. C., 3903v
Macaulay Institute for Soil Research, 3226i
Mačavariani, I. F., 1422
McBeth, C. W., 293
McBirney, S. W., 161, 2238r
McBride, J. J., Jr., 2990
McCall, W. W., 2553, 2572, 2887
McCallan, S. E. A., 1523
McCallum, D. W., 1358
Maccario, G., 753w, 2945a
McCarty, C. D., 362, 2511g
McCaskill, L. W., 3996y
McCaslin, R. L., 2785
McClaugherty, F., 2474
McClean, A. P. D., 785, 822r
McClintock, E., 1785x
McCloskey, G. T., 2301q
McCloskey, P., 2716a
McCloy, J. F., 3087
McClung, A. C., 2209, 3345
McClure, F. A., 1669
McClure, T. T., 3397
McColloch, R. C., 1230
McComb, A. J., 2098, 2106
McCorkle, C. O., 1081r
McCornack, A. A., 800
McCrae, D. J., 880, 1885, 3083, 3177 l, 4096
McCready, C. C., 4172
McCubbin, E. N., 2523
McCulloch, R. N., 3458u
McCune, S. B., 2290, 2292
McElwee, E. W., 2857
McEvoy, E. T., 551
McEwen, F. L., 2595, 2597
McFadden, L. A., 686
McFarlane, N. L., 2059
MacGillivray, J. H., 1073
McGlasson, W. B., 4036
McGrath, H., 3843
McGrew, J. R., 1316 l
McGuire, D. C., 534i, 3795o
Machado, R. D., 1786b
Machado S., A., 1871
Machin, B. J., 976
Machlis, L., 4172
Machmer, J. H., 4021
McIlrath, W. J., 50, 3725
McIlvaine, T. C., 3803
McIntosh, D. L., 2233
McKee, H. S., 3198
McKeen, W. E., 2377, 3507, 3562b
McKelvie, A. D., 844, 3039
Mackie, A., 2839u
McKillop, A. A., 2146v
McKinlay, K. S., 4070
Mackov, F. F., 2686
MacLagan, D. S., 753k
McLane, S. R., 2487
MacLean, A. A., 3765
McLean, D. M., 534w, 2558, 3654
Maclean, J. A. R., 1863
MacLellan, C. R., 2421
McMartin, A., 1998j
McNally, A. G., 1762
McNicholas, F. J., 306
MacSwan, I. C., 2448h
McVey, G. R., 2853
McWhorter, F. P., 711
Madamba, U. V., 3797, 3798
Madden, B., 2238g
Maddox, J. M., 2637
Madel, W., 2448d
Madison, J. H., Jr., 2484
Madras Department of Agriculture, 996
Madsen, H. F., 337r, 1270, 1272, 2397, 2405, 2448y, 3531
Maestri, M., 3608
Magee, C. J., 1848, 3033
Maggs, D. H., 1109, 2174
Magie, R. O., 2896
Magimel, R., 1080
Magness, J. R., 2188
Magni S., C. J., 2285
Maheshwari, N., 2112, 2113
Maheswariah, B. M., 1897
Mahlstede, J. P., 1754, 2469, 2475, 2844, 3973, 3996z
Mahon, J. H., 2146a
Mahrouki, A. M., 1483
Mahto, J., 1954
Mai, W. F., 292
Maier, C. R., 628, 649p
Maillard, S., 767
Majmudar, A. M., 476
Majumdar, P. K., 830
Maklakova, G. F., 2555
Maksakova, V. M., 484
Malan, A. H., 2294
Malavolta, E., 876, 1874, 3076
Malaya Department of Agriculture, 859, 1672y

Malaya Rubber Research Institute, 903, 957, 960x, y, z, 1352, 4116
Malbouisson de Mello, L., 3679
Malbrunot, P., 3562c
Malcolm, J. L., 2675, 2949
Mali, L., 4161
Maliga, P., 3455
Malinowski, B., 2826
Maliphant, G. K., 848, 959w
Mallet, L., 2602
Mallik, A. K., 1938
Mallikarjuneswara, V. R., 1920, 1997j, 4121
Malyšev, A. A., 2797
Mamarov, P. T., 3434
Mamawal, E. B., 1865
Mamedov, G. M., 1618
Mameli-Calvino, E., 718, 1785y
Mamporija, F. D., 2971
Manabe, M., 3023
Manaresi, A., 201, 3436
Manchester, A. C., 1840q
Mandryk, M., 1587
Mándy, G., 3799
Mann, G., 180s, 1181, 2241
Mann, J. D., 2780h
Mann, T. J., 2745, 3800, 3820
Manner, R., 2906
Mantrova, E. Z., 3943
Manzo, P., 2371
Mapother, H. R., 337s
Mappes, F., 277
Mapson, L. W., 3969, 4172
Marais, P. G., 1132
Maramorosch, K., 30
Marañon, J., 594
Marar, M. M. K., 4071
Marcelli, E., 550, 2764, 2780i
Marcellin, P., 163
Marchal, J., 2592, 2593, 3979, 3985, 3990
Marenaud, C., 2203
Marh, A. T., 1533
Marinos, N. G., 2458
Marion, L., 1575
Markley, K. S., 637
Marks, J. D., 1023
van Marle, G. S., 592
Marloth, R. H., 4005
Marocke, R., 2811
Marquardt, W., 72
Marras, F., 2114
Marrou, J., 3562d
Marsh, R. W., 263
Marshall, H. H., 2717h
Marshall, M., 1594
Marteau, V. G., 1998k
Martelli, G. M., 1276, 3562e
Martelli, G. P., 1840r
Martelli, M., 2542
Marth, P. C., 2085, 2092
Martin, D., 1170f
Martin, D. L., 2495
Martin, H., 4037
Martin, J. P., 2951, 2961, 4011
Martin, J. T., 257, 330, 331, 333, 832, 3562f
Martin, R. J. L., 215
Martin - Luther - Universität, Halle-Wittenberg, 997
Martinez, A., 4061
Martínez Crovetto, R., 1349
Marty, J. R., 1223
Marucci, P. E., 2415
Marui, T., 1708
Marynen, T., 897
Mashkovtsev, M. F., 2780j
Marzocca, A., 1672z
Maslenikov, I. P., 3796c
Mason, A. C., 2199, 3352
Mason, D. T., 680
Mason, W. B., 1809
Mason, W. J., 2146o
Massey, D. M., 489, 3752
Massey, P. H., Jr., 2490, 2530, 2552, 2687, 2717i
Mastalerz, E., 2866
Mastalerz, J. W., 2861, 2884
Mathes, R., 3140
Mathisen, K., 3925
Mathur, P. B., 3701
Mathur, P. S., 2482
Mathys, G., 1269, 2400
Matic, M., 959t
Matinjan, A. B., 3151
Matkin, O. A., 1785z
Matolcsy, G., 1388
Maton, A., 1605, 1670
Matouš, J., 1682
Matson, J., 2238s
Matsubara, S., 1469
Matsui, S., 818
Matsumoto, H., 1835
Matsushima, J., 2954
Matta, A., 3504, 4060
Matthews, A. A., 960a
Matthews, C. D., 3458u
Matthews, E. M., 2732
Matthysse, J. G., 1998 l
Matzik, B., 1150, 1177
Mauch, A., 180t, 2238t
Maurer, K. J., 117, 1213, 3295
Mauri, N., 797, 2303
Mauritius Department of Agriculture, 2037, 3213
Mauritius Sugar Industry Research Institute, 4125
Mavrodineanu, R., 1081s
Maxie, E. C., 3399
Maxwell, N. P., 4001, 4009
May, P., 236, 3446
Mayer, A. M., 534x, 1021, 2653, 2654, 2655, 2656, 3796d
Mazaeva, M. M., 1420
Mazery, G., 1998m
Mazzei, A., 3458v
Mederski, H. J., 2691
Medvedev, Ž. A., 442, 1019, 1081t, 2072
Meeklah, F. A., 2507
Meenakshi, S., 1617, 3872
Mees, G. C., 1081u, 2521
Meeus, M., 2860
Mega, K., 3917
Meggitt, W. F., 3583
Meguro, M., 3127
Mehlitz, A., 1150, 1177
Mehlorn, L., 3996d
Mehlquist, G. A. L., 669, 1692
Mehra, S. N., 960b
Mehta, P. P., 1947
Meier, G., 3562g
Meier, H., 3027c
Meiffren, M., 879
Meijer, G., 1679, 1710
Meijneke, C. A. R., 3517
de Meirleire, H., 2368
Mejia J., M., 1998n
Melchior, G. H., 2071
Melder, A., 3941
Melikjan, N. M., 2804
Mel'nik, S. A., 2301r
Mel'nikov, N. N., 2089
Meltzer, J., 1302, 1303, 2398, 3694
Melville, F., 2238u
Ménager, H., 3903o
Mendes da Ponte, A., 4156v
Méndez-Roig, F., 1933
Mendis, V., 1985
Meneret, G., 1673a
de Menezes, O. B., 4156w
Mengel, K., 1082m
Menon, B. G. N., 1786a
Menon, K. P. V., 960c, 1998v, 3067
Mercado, O., 429
Merck & Co. Inc., Chemical Division, 2146w
Mercuri, S., 74
Merendi, A., 3903p
Merí Puig, J., 802
Merle, P., 3029
Merrill, T. A., 2208
Merritt, J. H., 3903q
Mervyn, R. G., 389h
Mes, M. G., 1875, 3074
Mesa Bernal, D., 3027d
Mesías, J. R., 1957
Mesmer, E. T., 1889
Messenger, P. S., 4045g
Messing, J. H. L., 501, 2864, 3796e
Mestier, J. J. E., 368
Metcalf, R. L., 2009
Metcalfe, C. R., 1026
Meteorological Office, Air Ministry, London, 3189

Meudt, W., 438
Meyer, J. L., 180u
Meyer, R. E., 1513
Meyer, T., 1998o
Mezzetti, A., 816, 1232, 2235
Michel, B. E., 2717j
Michel, É., 1591, 1592
Michelbacher, A. E., 1317b, 3545
Michelsen, F., 1169w
Michiels, A., 1368k
Michigan Agricultural Experiment Station, 998, 4184
Michniewicz, M., 3248
Mickovski, J., 3856g
Middleton, J. E., 2193
Middleton, L. J., 2717k
Migliorini, R., 3933
Mihajlov, M. K., 588, 589 l, 3832
Mihaleva, E. N., 1215
Mijušković, M., 3019
Mika, E. S., 1614
Mikaelsen, K., 3713
Mikešin, G. V., 4143
Milanez, F. R., 1786b, 1786c
Milbrath, J. A., 1237
Milburn, F., 3376
Milburn, T. R., 1035
Milella, A., 2276, 2301s, 2539, 2540
Miles, H. W., 1317c, 2189
Miles, J. D., 3812
Mileško, L. F., 952, 1988
Milicić, D., 3331
Miller, C. D., 404, 1998p
Miller, C. O., 3724
Miller, E. V., 1840s, 3197
Miller, H. N., 663
Miller, M. D., 3904e
Miller, O. H., 3862
Miller, P. M., 3844
Miller, P. R., 3843
Miller, P. W., 2350
Miller, R., 665
Miller, R. H., 3880
Miller, R. L., 1840t
Miller, R. O., 696, 1751, 1785r, 2882
Miller, V. L., 2902
Millikan, D. F., 221, 337t, 2330
Milsted, M. F., 3190
Milthorpe, F. L., 25
Minamikawa, J., 1980, 3169, 3170
Minarik, C. E., 3566
Minessy, F. A., 2511c, 3026d, 3026e, 3027e
Minev, K., 2763
Mininberg, S. Ja., 2301t
Ministère de l'Agriculture, Québec, 2044, 3400x
Ministre de l'Agriculture de France, 2414
Ministry of Agriculture, London, 322, 337u, 389i, 678, 699, 1015k, 1169x, 1300, 1317d, 1332, 1545u, 2056, 2145, 2146x, 2238v, 2448z, 2449a, 2449b, 2717 l, 2717m, 2717n, 3285u, 3400y, 3562h, 3562i, 3562j, 3796f, 4200m
Ministry of Agriculture, Northern Ireland, 999, 2038, 4200m
Minnesota Agricultural Experiment Station, 2058m
Mino, S., 1708
Minshall, W. H., 1656
Miny, P., 4156x
Minz, G., 3562k
Miotto, G., 3486
de Mira Galvão, J. M., 3027f
Mirčetić, S., 3019
Mirimanjan, V. A., 2976
Mirzaev, M. M., 3291
Misra, K. P., 919
Mississippi Agricultural Experiment Station, 3214, 4185
Mitake, H., 569
Mitchell, A. E., 2318, 3560
Mitchell, F. G., 3377
Mitchell, J. W., 2085
Mitchell, R. L., 48
Mitić-Mužina, N., 2431
Mitidieri, J., 2715
Mitra, C., 2839v
Mitra, G. C., 1082r
Mitsui, M., 3155
Miyashita, D. H., 1281
Mobbs, J. A., 831
Mogilevkin, V. B., 1043
Mohr, O., 3997a
Mohr, W. P., 432, 452
Möhring, H. K., 2027
Mohs, H. J., 3571
Moiseeva, M. N., 2669
Molina, H., 649o
Molotkovskij, G. H., 730, 2069
Molotkovskij, Ju. G., 2076
Monahan, W. J., 3378
Money, R. W., 1998q
Monin, A., 1136, 1335, 2206
Monk, R. J., 1651, 2807
Monselise, S. P., 1725
Monson, W. G., 3621i
Montanari, V., 753x
Monteiro, H. (Neto), 1786c
Monteiro Salles, F. J., 4079
Montenegro, H. W. S., 1840u
Montgomery, H. B. S., 3207
de Montleau, P., 1081v
Montserin, B. G., 842
Montserrat, P., 3903d
Moody, J. E., 2738
Moore, C. W. E., 2100
Moore, E. L., 1068
Moore, I., 3017
Moore, J. D., 241
Moore, J. F., 1511
Moore, M. H., 2376
Moore, P. W., 796, 1792
Moore, R. C., 2184, 2212
Moore, T. C., 1440
Moreau, C., 163
Moreau, M., 3997b
Moreira, S., 764
Moresto, S. E., 1546s
Moreton, B. D., 420, 1271, 1409, 4162
Morettini, A., 180v, 180w, 1830, 2010, 2301u
Morgan, B. H., 1169y
Morgan, C. V. G., 327, 2394, 2395
Morgan, D. G., 2521
Morgan, G. T., 2338
Morgan, K. J., 2839w
Morgan, M. J., 344, 2453
Morgan, N. G., 324, 325, 337o, 337p, 826
Morgan, O. D., 295, 578, 2767
Mori, H., 2196, 2197, 2198
Morris, L. G., 2005, 3274, 3276
Morris, L. L., 2146v
Morrison, G., 352
Morrison, H. E., 337v
Morrison, K. J., 3405
Morrison, L. S., 272
Morschel, J. R. G., 2381
Mortimer, P. I., 598, 1624
Moruju, G., 1169z
Morvan, G., 1234
de Mos, D., 1216s, 2187
Moscicki, Z. W., 2093
Moscoso, C. G., 4004
Mosolov, I. V., 2526
Mosse, B., 3314
Mothes, K., 3198, 3822
Motorina, M. V., 2266
Mottier, P.-P., 1504
Mouat, H. M., 3458w
Moulsley, L. J., 2135
Moulton, J. E., 2336
Mounat, A., 1549
Mount, J. W. S., 1170a
Mount, W. E., 3027g
Mountain, W. B., 1258, 1259
Mouras, M. M., 1956
Moursi, M. A., 2717o, 2717z
Mowry, H., 753o
Mowry, J. B., 3400z
Moyse, H., 3903r
Moyse, W. J., 3947
Mudd, J. B., 3247
van den Muijzenberg, E. W. B., 1074
Muir, E., 1571
Muir, R. C., 3207
Muir, R. M., 1573

Mukerjee, P. K., 3011, 3096
Mukerji, B., 1673b
Mukherjee, K. L., 1081w
Mukula, J., 1475
Mulherin, K. S., 3856h
Müller, G. F. W., 298
Müller, H. W. K., 2784, 3525
Müller, K. W., 3348
Müller, O., 815, 1290
Müller, R., 587, 1576, 2749
Muller, W. H., 3558
Mumford, D. C., 3556
Mune, T. L., 359
Munier, P., 822s
Munnecke, D. E., 1764
Muntañola, M., 1538
de Munter, P., 132
Murakami, Y., 3260
Murakishi, H. H., 464, 2913
Muraoka, Y., 3810
Muraš, I. G., 1373
Muratore, A., 782
Murawski, H., 3401a
Murphy, B. C., 3298
Murphy, E. L., 3830
Murphy, H. J., 2511m
Murray, D. B., 843, 847, 960d, 960e, 3039
Murthy, K. N., 3172
Musser, H. B., 3952
Mustard, M. J., 3008, 3027h
Muthuswamy, R., 1934, 1998r, 3125
Muthuswamy, S., 649r, 1207, 1763, 1999d
Muzik, T. J., 1609, 3112
Myatt, O. W. D., 3177m
Myburgh, A. C., 337w
Myers, J. M., 549
Myrstad, A., 1545o
Mysore Department of Agriculture, 1015l, 1015m, 1840v, 2039
Myszka, A., 3634

Naaldwijk Research Station for Fruit and Vegetable Growing under Glass, 1000
N.A.A.S., 1001, 1015n, 2046, 2905
Nada, I. A. A., 3027i
Naef-Roth, S., 289
Nagaraj, A. N., 3067
Nagels, W., 3632
Nair, C. K. N., 960f
Naito, N., 3016
Najdenov, L. N., 2286
Nakagawa, H., 2717p
Nakagawa, Y., 534y, 2717q, 3796g
Nakakihara, H., 1266
Nakamura, S., 694, 3624
Nakasone, H. Y., 1345, 2863, 2891
Nakayama, A., 3153, 3154
Nakayama, T., 394
Nal'borčik, Ė. Ja., 13
Nalivajko, G. S., 2810
Nalivajko, Ju. S., 2813
Namba, R., 811
Nambiar, K. P. P., 1893
Nanda, K. K., 3647, 3648
Nankivell, W. I., 2958
Nannenga, E. T., 972
Napier, E. J., 447
Narasimham, R. L., 1998s
Narasimhan, R., 925
Narayana, K. L., 1541
Narayanamurti, D., 2839x
Narayanan, B. T., 1998t, 3177n
Narvestad, K., 2146y, 3285y, 3649
Nascimento, U., 1892
Nasr, T., 3320
Nasr, T. A., 3026f, 3026g
Nathan, S. J. S., 925
National Academy of Sciences, Washington, 973
National Institute of Agricultural Botany, Cambridge, 534z, 535a, 3623, 3796h
National Institute of Agricultural Engineering, Silsoe, 68k, 1002, 4186
National Research Council of Canada, 2058d, 3226b
National Rose Society of Great Britain, 2918
National Vegetable Research Station, Wellesbourne, 3622
National Weed Committee, Canada, Eastern Section, 3621f
Natividade, J. V., 180x, 3012
Natti, J. J., 419, 2576
Naude, C. J., 2999
Navarre, E., 829
Navia, J. M., 2717r
Naylor, A. G., 1851, 3068
Naylor, A. W., 576, 2756
Nazarov, I. E., 1
Nazarov, S. P., 2668
Neal, G. E., 2217, 3362
Neal, O. M., Jr., 3760
Neame, B. D., 1170b
Nearing, G. G., 3992
Neas, I., 1563
Nebraska Agricultural Experiment Station, 2058n
Neel, W. W., 312, 1291
Negi, N. S., 928
Negrul', A. M., 2262, 2269, 2301v, 3458x
Nehemias, J. V., 43
Neirinckx, G., 1673c, 1861
Neiswander, R. B., 410, 753y
Nejman, G. B., 1472
Nekrasova, T. V., 4007
Nelson, D. C., 3612, 3617
Nelson, H. D., 1077
Nelson, K. S., 670, 2899, 2920, 2943
Nelson, P. K., 652, 1753, 2843
Nelson, R. O., 3008
Neptune Ménard, L., 1874
Neri, M., 190
Nesterov, Ja. S., 1111
Nettles, V. F., 2522
Neuffer, G., 2404
Neumann, D., 3288, 3289
Neumann, G., 475, 2649, 2657, 2659
Neustadt, M. H., 2822
Nevstrueva, R. I., 2798
New York State Agricultural Experiment Station, 4200n
New Zealand Department of Agriculture, 2040
New Zealand Department of Scientific and Industrial Research (D.S.I.R.), 2041, 2720, 2806
New Zealand, Institute of Horticulture, Royal, 4197
Newhall, A. G., 4056
Newton, W., 2253
Nezgovorov, L. A., 2075
Nicholas, A. W., 2907
Nicholas, D. J. D., 46
Nicholas, R. C., 2370
Nichols, L. P., 3981
Nichols, R., 849, 850, 2783, 3043
Nickell, L. G., 1052, 3255
Nico, G., 3458p
Nicolaisen, W., 1372, 3682
van Niekerk, P. E. le R., 1132
Nielsen, G., 2195
Nielson, P. E., 191
Nieuwhof, M., 3650
Nigam, L. N., 938
Nigeria, Federation of, Department of Agricultural Research, 1004, 2058o, 4187
Nigeria, Northern Region, Department of Agriculture, 2058p. 4200o
Nigeria, Western Region Marketing Board, 4200p
Nigond, J., 213, 1186
Niizeki, S., 1048
Nikiforov, I. L., 2839y
Nikiforova, L. T., 2269
Nikolov, N., 753z
Nilsson, F., 3581
Nirula, K. K., 960g, 1998u, 1998v, 3177o, 3177p
Nirvan, R. S., 1998w, 3022

Nisen, A., 61
Nishida, T., 1424, 1743, 3680, 4043
Nishii, K., 2904, 3950
Nishikawa, Y., 1602i
Nishiura, M., 2954
Nitočkina, A. P., 3419
Nitsch, J. P., 1081x, 1755
Nixon, R. W., 806, 822t, 1840w
Nizkovskaja, E. K., 1658, 2820
Njoku, E., 1705
Noël James, C., 4061
Nogueira, D., 822u
Noll, C. J., 2493, 3613
Nõmmik, H., 1081y
Nomura, Y., 568, 569
Norman, A. G., 2011
Noro, K., 2947, 3014, 3015
Noro, T., 774
Norris, R. E., 1798
North, C. P., 757, 3974
North, J. J., 1081z
North Carolina State College, Entomology Faculty, 3846
North of Scotland College of Agriculture, 2042
Northcote, D. H., 1170c
Northern Ireland Ministry of Agriculture, 999, 2038, 4200m
Northern Rhodesia Department of Agriculture, 4200q
Ností Nava, J., 1654
Nottingham University, School of Agriculture, 4194
Nour-Eldin, F., 1840x
Novasio, D., 3285v
Novero, E. S., 4027
Novickaja, G. V., 1664
Nowiński, M., 1612
Noyes, G. B., 960h
N.S.W. Department of Agriculture, 1003, 3226j
N.S.W., Department of Agriculture, Biological Branch, 535b, 1082a, 3026j, 3027j, 4045 l
N.S.W., Department of Agriculture, Entomological Branch, 3561o
Nunes, W. de O., 4156w
Nursery Stock Research and Extension Committee, N.Z., 3908
Nutman, F. J., 1880, 4094
Nyasaland Department of Agriculture, 1015o, 4156y, 4200r
Nyasaland Tea Research Station, Mlanje, 3148
Nybom, N., 76, 3364
Nye, P. H., 960i, 1060
Nyhlén, Å., 3374, 3386
Nyland, G., 242
Nylund, R. E., 373, 2505, 3612, 3617

Obaidullah Jan, M., 912
Oberle, G. D., 1170d, 2184
Obermayer, E., 3792
Obermayer, G., 1311
O'Brien, G. E., 389k
Ocfemia, G. O., 4069
Ochs, G., 250, 1244, 2340
Ochse, J. J., 2716f
O'Connor, B. A., 1866
Odhnoff, C., 3257
Oechsli, L. P., 3039
OEEC—*see* Organization
Oelke, J., 1481
Oelker, G., 3945
Ogaki, C., 1134
Oganesjan, A. P., 3467
Ogata, K., 3702
Ogawa, J. M., 267
Ogawa, Y., 1374
Ogden, W. B., 3856i
Ogle, W. L., 1425
O'Grady, L., 3338
Øhlers, H., 128
Ohori, K., 3810
Ojha, V. N., 649q
Okada, M., 754a
Okasako, Y., 694
Okazaki, M., 817, 1839
Okudai, N., 2954
Oldén, E. J., 76
Oldroyd, K., 1072
Oliver, J., 2730
Oliver, R. W., 1786d, 1786e, 2945b
Olivier, P., 3599
Ollram, F., 1224
Olmo, H. P., 1089, 3458y
Olson, E. O., 4001, 4006, 4019
Olsson, K., 1293
O'Neil, J. M., 1331
Onishi, I., 2779, 3835, 3856j
Ono, H., 1713
Onrust, J. C., 2441
Ontario Department of Agriculture (Vineland), 3192, 3215
van Oorschot, J. L. P., 2465, 2494
Oort, A. J. P., 1246
Oostenbrink, M., 291, 1317e, 2449c, 3517
Opel, H., 1450
Oprean, M., 1196
Opsahl, B., 2635
Orbea, J. R., 1510
Orchard, W. R., 1254
O'Reilly, H. J., 288
Orellana, R. G., 960j, 1857
Oren, R., 4045m
Organization for European Economic Cooperation (OEEC), 2012, 3191
Orgell, W. H., 2451
Orian, G., 1687
Orihuel Gasque, B., 802
Orillo, F. T., 2839z
Orlando, A., 882, 1282, 1884, 2413
Orlido, N. M., 877
Ormerod, P. J., 2814
Ortega Nieto, J. M., 812
Ortiz Ramirez, G., 1583, 2780k
Orton, L. W., 2453
Osakabe, M., 1980, 3168, 3169, 3170
Osamura, Y., 2238q
Ōsawa, T., 529
Osborne, D. J., 2095
Osborne, L. D., 2106
Osborne, P., 2878
Oseledec, N. N., 546
Ossowski, L. L. J., 2836
Ostapenko, V. I., 2183
Ostaščenko-Kudrjavceva, A. K., 2537
Oste, C. A., 1840y
Ostojić, N., 1317f
Ota, A., 1424
Ôta, I., 3165
Ota, R. M., 4090
Otagaki, K. K., 1835
Otey, G., 3651
Othmezuri, L. T., 1526
Otto, A., 3997c
Ottosson, L., 2587
Ourzazi, N., 2619
Ounsworth, L. F., 535c
Ovčarov, K. E., 2129
Overcash, J. P., 180y, 3298, 3299
Overman, A. J., 408, 2703, 2704, 2879
Owades, J. L., 1082b
Owen, G., 1917
Owen, P. C., 7, 563, 573, 3836
Owens, H. B., 409
Ozolin, P. K., 1721
Ozolina, L. I., 2238w

P—, E., 68e
Paardekooper, E. C., 1998x, 1998y
Paasch, E. W., 2133
Pääsuke, M., 2391
van der Paauw, F., 2717s
Pack, A. B., 3850
Padfield, C. A. S., 171, 1167, 2232
Padhye, V. P., 68m
Pádua, M. D. L., 1840z
Pag, H., 3996p
Pagacz, E., 3085, 4083

Page, A. B. P., 2146z
Painter, A. C., 965
Painter, R. H., 3216
Paisley, K., 3796i
Pal, N. L., 2769, 3808
Palfrey, G. D., 3564
Palk, R. H., 3997d
Palmer, E. F., 3192
Palmer, J. K., 564, 567
Palmquist, E. M., 1865
Paltridge, T. B., 960k
Pan, K. Y., 3105
Panaretos, A., 3026x
Pandalai, K. M., 3066
Pandele, I., 1092
Pandey, J. P., 905
Pandey, S., 1826
Pang, O. A., 1869
Panje, R. R., 3177q
Pankajamani, K. S., 2944o
Panova, A. V., 2526
Panzera, C., 219n
Paparella, R., 782
Pape, H., 2945c, 3193, 3997e
Papp, J., 2936
Papworth, D. S., 2449d
Paquin, R., 1545v
Paradies, A. M., 1615
Paradis, R. O., 1284
Pardo García, M. del P., 1654
Parent, B., 1317g
Parham, J. W., 359
París, R., 600, 3903r
Parker, J., 3235
Parker, K. G., 292, 2316, 2332
Parker, M. M., 1338
Parker, M. W., 968
Parkey, W., 641
Parmar, A. S., 3986
Parr, W. J., 535d, 3639
Parreira, P., 3072, 3177r
Parrett, R., 754b
Parsa, A., 2840a
Parthasarathi, K., 4156z
Parups, E. V., 3346, 3855
Pasečnik, S. T., 2238x
Passecker, F., 112, 2238y, 2238z
Passlow, T., 1463
Pastore, F., 1203
de Pastoriza, A. E. de E., 3026v
Pastoriza, R., 1164
Patel, G. I., 3177i
Patel, G. L., 1990
Patel, I. M., 2758
Pathak, S. P., 649q
Paton, J. B., 712
Patron, A., 145
Patterson, D. G., 1478
Patterson, J. B. E., 1082c
Patterson, N. A., 2423
Paul, H., 918
Paulus, A. O., 2952
Paunović, S. A., 110
Pavari, A., 2301w
Pavićević, B., 1277
Pavlenko, F. A., 219w
Pea Growing Research Organization Ltd., 1426
Pearce, S. A., 974
Pearce, S. C., 5
Pearse, F. S., 343
Pease, H. L., 1317h
Peck, N. H., 413, 3687
Pedersen, K., 3202
Pederson, H., 4016
Pedrini, E., 180z
Peebles, T. F., 2001
Peer, P., 1562
Peeters, F., 2849
Pegg, G. F., 1546f
Peggie, I. D., 2369
Peguy, P., 3997m
Peiris, J. W. L., 960j
Peixoto Filho, O., 3049
Pejve, Ja. V., 2126
Pek, T. T., 1914
Pelczarska, E., 2786
Pélegrin, P., 1350, 4115
Pelekassis, C. D., 1528
Pelletier, R.-L., 1404, 3489
van Pelt, H. M., 2858
Peltonen, A. J., 3361
Pembroke, E. A., 960 l
Pence, R. J., 759
Penfold, A. R., 2840b
Peng, F.-Y., 3511
Penkov, M. D., 3435
Penn, P. T., 3821, 3827
Penningsfeld, F., 734, 754c, 1375, 1680, 1780, 3913
Pennington, C. W., 3903s
Pennisi, F., 217
Pennsylvania Agricultural Experiment Station, 3226k
Pensky, J., 1467
Pénzes, I., 2711
Percival, G. P., 1122
Peredel'skij, A. A., 1040
Pereira, H. C., 875, 4156n
Pereira Junior, J., 1891
Perez, C. B., Jr., 3070
Pérez, M. E., 3109
Perkins, H. J., 3256
Perkins, H. O., 754d
Perkow, W., 3194
Perraudin, G., 1317i
Perrotti, G. L., 175
Perry, A., 1602d, 1602e, 1602k
Perry, B. A., 1545p
Perry, R. L., 1822
Perry, V. G., 2532
Persson, A., 2677
Pesante, A., 3876
Pesaresi, S., 181a
Pešina, K., 1765
Pesserl, G., 1121, 2420
Peters, C. W., 666
Petersen, H. I., 1368 l
Petersen, J. L., 676, 2868
Peterson, C. E., 3796j
Peterson, G. D., Jr., 1844
Peterson, I. L., 1318
Peterson, L., 1421
Peterson, R. G., 3796k
Petiet, J., 1718
Petinov, N. S., 2076
Petit, J., 3047
Petrahilev, I. M., 2301x
Petrlík, Z., 1645, 3882
Petročenko, U. A., 2688
Petronijević, M., 2359
Petrosini, G., 1517
Petrosjan, A. A., 1104
Petrosjan, G. P., 2281
Petrov, A. V., 3322
Petrov-Spiridonov, A. E., 1031
Petruccioli, G., 4039
Petruhina, M. T., 3515
Petzer, C. F., 3796 l
Pew, W. D., 535e
Peyer, E., 205, 206, 2320, 3458z
Peynado, A., 3284
Peyre de Montbreton, C., 3100
Pfeiffer, N. E., 2945d
Pfeiffer, R. K., 360
Pflug, I. J., 164, 180h, 181b
Pfnür, E., 2110
Philhower, L. S., 535f
Philip, A., 589m, 1589
Philipp, W., 1600
Philippe, J., 822v, 1841a, 1993, 2965
Phillips, A. M., 313
Phillips, G. L., 1077
Phillips, M. A., 3642
Phillips, R. V., 2993
Phillips, W. R., 165, 167, 173, 181c, 3392, 3394
Phipers, R. F., 2840c
Photiades, T., 3703
Picco, D., 1262, 1364, 1387, 3553, 3782
Pickett, A. D., 2423
Pickett, E. E., 221
Pico, J. A., 650, 754e
Piechocka, J., 2251
Piedelievre, R., 2602
Piekarska, J., 2536
Pieniążek, S. A., 70, 127, 1165
Pieri, G., 283, 320
Pieris, S., 2717t
Pierpoint, W. S., 1430
Pigarova, E. N., 2448j
Pigatti, A., 1998z
Pilet, P.-E., 436, 2147a
Pillai, K., 1896
Piltz, H., 1735
Pimentel, S., 3440
Pimentel Gomes, F., 1940
Pinčuk, L. M., 3899
Pine, T. S., 282

Pineda, F., 4157a
Pinney, T., 3590
Pinto, J. A. G., 68n
Pinto Ganhão, J. F., 1082d
Pioth, L. C., 1243
Pirie, N. W., 589b
Piringer, A. A., 3873
Piringer, A. A., Jr., 3995
Pirone, P. P., 2097
Pirovano, A., 1253, 2181
Pisareva, E. N., 2780j
Pisek, A., 3472
Pitcher, R. S., 2416
Pittman, J. F., 535f
Plachy, E., 2043
Plack, A., 3254
Plakidas, A. G., 3976, 3994
Planes García, S., 789, 3018
Plant, A., 528
Plant Protection Ltd., 29, 2147b, 3767
Plantenziektenkundige Dienst, Wageningen, 1005
Plantiveau, P., 1082e
van de Plasse, J. B., 2236
Platone, E., 1860
Platonova, E. M., 405
Platt, R. G., 2980
Plaut, M., 2117
Plenet, R., 1610
Pleškov, B. P., 2589
Plock, H., 68o, 86, 2239a, 3401b
Plüghan, A., 2448t
Plummer, T. H., 1709, 3759
Plumridge, A. J., 754f
Plunkett, B. E., 2612
Poapst, P. A., 153, 173, 181c, 3372, 3392
Pociej, J., 1454
Počinok, H. N., 3285w
Pohlman, G. G., 3803
Poignant, P., 2504
Pokorný, M., 1649
van der Pol, C., 932
Polanía Sánchez, R., 960m
Polhamus, L. G., 635
de Poli, E., 3629
Polivka, J. B., 376, 2910
Poljakoff-Mayber, A., 474, 534x, 2649, 2650, 2652, 2653, 2654, 2655, 2656, 2657, 2659
Pollard, A., 183
Pollard, A. G., 3717
Polley, D., 2902
Polsinelli, M., 219g, 219h, 1197, 1216i, 2301g, 3427, 3458i, 3458j
Polster, H., 1036, 3285x
Polumordvinova, I. V., 1500
Polunin, Ja. Ja., 1545w
Poma Treccani, C., 172, 175
Pominski, J., 4157b
Ponchet, J., 1407
Poncin, L., 3039
Ponniah, S., 1690
Pont, W., 834
Pontoriero, P. L., 535g
Pontovič, V. Ê., 3899
Poorbaugh, H. J., 1199
Popenoe, J., 3095
Popham, R. A., 3997f
Popov [Popoff], A., 643, 644
Porjadkova, N. A., 1042
Porlingis, I., 3013
Porpáczy, A., 70, 1214, 3404
Porrata, E. I., 3038
Porreye, W., 262
Porritt, S. W., 169, 328, 2233, 3385, 3389, 3400 l, 3400m, 3561r
Porter, B. A., 3562 l
Porter, C. A., 570, 571
Porter, L. K., 2746
Porterfield, J. G., 2511 l
Portsmouth, G. B., 944, 945, 946, 947
Posnette, A. F., 247, 1240, 1242, 2330, 2449e, 3039, 3207
Possingham, J. V., 51, 441, 3262
Post-Bakker, M., 2642
Postiglione, L., 2780 l
Postlethwaite, J. D., 3795z
Potapov, A. I., 3159
Potapov, S. P., 3419
Potter, G. F., 3027k
Potter, H. S., 464, 3659
Potter, J. M. S., 1170e, 1216m
Potůček, O., 3903t
Poulos, N. A., 3903u
Pound, G. S., 426, 2755, 2780w
Pousa Bicudo, L., 1999a
Powell, B. D., 862, 4067
Powell, D., 279, 2355, 2449q, 3487
Powell, E. N., 1700
Powell, L. A., 822w
Powell, W. A., 1602 l
Pozděna, J., 1672j, 1673d
dal Pozzo Arzolla, J., 3076
Prasad, A. R., 1954
Prasad, N., 2758
Prasad, R., 3146, 4132
Prasad, R. B., 960r
Prasad, S. K., 1997b
Prasad, S. N., 1952
Pratt, A. N., 2301y
Pratt, D. F., 286
Pratt, H. K., 1530, 2581
Pratt, J. J., Jr., 2009
Pratt, M. J., 3508
Pratt, P. F., 770, 1801, 2964
du Preez, D., 2239b
Preiss, J. W., 1490
Pressed Steel Company Ltd., Cowley, 1082f
Prest, R. L., 219x
Preston, A. P., 1102, 3307
Prevost, H., 3458q
Prevot, P., 2, 3100, 4110
Price, D., 4054
Price, P. B., 1729
Price, W. C., 1999b
Pridham, A. M. S., 341, 2473
Primer, P. E., 1143
Printy, W., 3999
Priol, J., 2449f
Priščep, L. G., 405
Pritchett, W. L., 557, 583
Pročaev, V. P., 2810
Procenko, D. F., 1016
Proctor, C. H., 2694
Proctor, J. M., 1296
Proebsting, E. L., 137, 3349, 3401c
Proebsting, E. L., Jr., 141, 2190, 2208, 2317, 3328
Prokof'ev, A. A., 642, 1664
Pronk, F., 894
Prosser, D. S., Jr., 780
Prosser, T. W., 146
Prostoserdov, N. N., 2264
Prota, R., 1392
Prota, U., 2984
Protopopova, G. V., 2432
Proverbs, M. D., 309
Průša, V., 1239
Pryde, J. F. P., 2783
Pryor, R. L., 1778
Przygodda, W., 2436
Psarev, G. M., 2722
Pucci, E., 2945e
Pullen, W. E., 1456
Pulselli, A., 2239c
Pupo de Moraes, F. R., 4087
Purcell, A. E., 4045n
Purdue University, Agricultural Experiment Station, 4200s
Puri, K. D., 919
Puri, V. D., 938
Purss, G. S., 4044
Purvis, E. R., 1479
Putnam, N. F., 3565
Puttarudriah, M., 1321, 2449g, 3141, 3171
Putter, J., 2665
Puzzi, D., 882, 1282, 1884, 1951, 2413
Py, C., 1351, 3177s, 3177t, 4115
Pyriki, C., 589n, 1578, 2749, 2751, 2780m

Quaas, R., 2133
Quackenbush, T. H., 56
Quagliotti, L., 1545 l
Quantz, L., 1444
Quarrell, C. P., 1696

The Quarterly Review of Biology, 41
Quebec, Information and Research Service, 3621g, 3796m
Québec, Ministre de l'Agriculture, 2044, 3400x
Queensland, Bureau of Sugar Experiment Stations, 1930
Queensland Department of Agriculture and Stock, 1545x, 2045
Quesnel, V. C., 861, 1859, 3058, 3060
Quimosing, N., 827
Quinlan, L. R., 3602
Quinn, T. J., 3903v
Quinones, F. A., 1545y
Quintanilla, R. H., 3535

Raabe, R. D., 749
Rabb, R. L., 526
Rabechault, H., 2840d
Radler, F., 199
Raeber, J. G., 2780n
Raffel, S., 2058e
de Rafols, W., 1659
Ragazzi, G., 3742
Ragetli, H. W. J., 1694
Raghavan, R. S., 4154
Raghavan, V., 960n, 3172
Rahn, E. M., 2712
Rahteenko, I. N., 3266
Rajagopalan, C. K. S., 1841b
Rajiah, E. S., 946
Rajkov, E., 2383
Rakcsányi, L., 3451
Rake, B. A., 185, 186
Rake, L., 382
Rakitin, Ju. V., 1838, 3249
Ram, R., 2839x
Ramachander, G., 960o
Ramachandrachari, C., 4139
Ramakrishnan, T. S., 960p, 3177u
Raman, K. R., 200, 1994
Raman, N. V., 534j
Ramanujam, D., 4141
Ramaswami, K., 960q
Ramaswamy, M. S., 1985, 1986, 1987
Rambelli, A., 754g, 1545z
Ramírez, A., 1361
Ramos, V. T., 1867
Ramsey, G. B., 42
Ramshorn, K., 3758
Ramunni, A., 589o, 2735, 2736
Rangaswami, G., 1841b
Rankoff, G., 591
Rao, D. S., 1653
Rao, G. N., 930
Rao, I. K. S., 885, 886, 1992, 4151, 4152
Rao, K. C., 4156a
Rao, M. S. K., 2780e
Rao, M. S. S., 928, 959x, 960r
Rao, N. R., 589p
Rao, N. V. M., 930, 960s, 4139, 4157c
Rao, P. R., 2839x
Rao, P. R. N., 1999c
Rao, P. V. R., 1541
Rao, S. A. R., 1999t
Rao, U. N., 649r, 1207, 1999d, 4157c
Rao, V. N. M., 885, 886, 1992, 3173, 4151, 4152, 4153
Rao, V. T., 589p
Rao, W. T., 960s
Raphael, T. D., 2301z
Rapoport, H., 2795
Rappaport, I., 3856k, 3856 l
Rappaport, L., 2677, 2678
Rasmussen, C. R., 2609, 3695
Rasmussen, L. W., 344, 2453
Rasmussen, P. M., 2230, 3496
Rasmusson, L., 2620
Rassadina, K. A., 3903m
Rateau, J., 156
Ratkovich, M., 3177v
Ratnasingam, K., 1997j
Ratvik, H., 3285y
Raudnitz, H., 1082g
Rautavaara, T., 2607
Ravikovitch, S., 1845
Ravines, A., 2237
Raw, F., 3401d
Ray, K. R., 1068
Ray, P. M., 4172
Raymond, W. D., 821, 3900
Read, D. C., 2139, 2636
Read, W. H., 513
Reath, N., 1497
Rebmam, E., 2373
Rebour, H., 1082h
Reckendorfer, P., 1231, 3464
Reddi, K. K., 589g, 2780o
Reddy, G. S., 1998c
Reddy, N. S., 1673h
Reed, R. H., 2599
Reeker, R., 2847, 3652, 3796n, 3910, 3912
Rees, D. I., 1427, 3366
Refatti, E., 2385
Regel, C., 2840e
Reggiani, F., 2538
Rehbein, C. A., 3601
Rehm, S., 1545i
Reichenbach, H., 1036, 3285x
Reichert, I., 822x
Reid, J., 3678
Reimann, E., 739
Reimann-Philipp, R., 1673f
Reimer, C. A., 2709
Reinhold, J., 2133, 3796o
Reisch, K. W., 2873
Reisenauer, H. M., 2717u
Reitan, A., 2630
Reithel, F. J., 4155
Reitsema, R. H., 613, 3903w
Renaud, R., 3039
Renier, A., 68p, 1549
Renis, H. E., 1546a
Renninger, G., 1814
Repp, G., 3621h
Rerko, L., 1702
Resende, F., 2914
Resnik, F. E., 1602 l
Restrepo, L. E., 2598
Retan, A. H., 2428
Reuther, W., 1799, 1800, 4172
Revilla, V. A., 448, 2713
Reynolds, H. T., 1268
Reynolds, J. D., 1546b, 2717v, 2717w
Reynolds, T. M., 155, 1151
van Rhee, J. A., 230
Rhines, C. E., 4157d
Rhodes, P. L., 4049
Rhodes, W. H., 3502
Rhodesia and Nyasaland Federal Ministry of Agriculture, 2058g
Rhododendron - Gesellschaft, Bremen, 2941
Ribas, W. C., 1884
Riccardi Candiani, G., 1229
Rich, A. E., 3476
Rich, C. I., 2687
Rich, S., 535h, 1406
Richard, M., 3562c
Richards, M., 3970, 3997g
Richards, R. R., 129, 3796p
Richardson, B. H., 1464, 2623
Richardson, J. K., 3795c
Richardson, K. E., 1082i
Richardson, R. W., Jr., 1438, 1546c
Richardson, S. D., 1759, 1760
Richter, P., 2945f
Rick, C. M., 1509
Ricketts, R. W., 3889
Ricks, C. B., 3635
Riddell, R. T., 2185
Ridé, M., 3480
Riedhart, J. M., 121
Riehl, G., 653, 654, 3923, 3924
Riehl, L. A., 2967, 4031
Ries, S. K., 383, 2491, 2497, 2573, 2717x, 3591, 3606, 3796j
Riess, E. M., 3195
Riethus, H., 1380, 2569
Rietzel, P., 3879
Rieuf, P., 784
Rigby, F. L., 3887
Riggenbach, A., 960t
Righi, R., 2307
Riker, A. J., 1571
Riley, W. F., 1514
Rimon, D., 1546d
Rinderknecht, H., 3005

Rings, R. W., 1275
Ríos B., B., 4131
Rios, E. de C., 3697, 3751
Ríos Vega, A., 4062
Ripper, W. E., 1317j, 2009
Risdon, E. J., 1923, 1999e, 3118
Rishbeth, J., 1851
del Rivero, J. M., 789, 3018
Rizvi, S., 1577
Rizzini, C. T., 1623, 1627
Rjabčenko, P., 3547
Rjabov, I. N., 2239d
Rjadnova, I. M., 3311, 3401e, 3473
Rjumina, G. A., 1637
Roach, F. A., 1337
Robb, S. M., 710
Robbins, W. A., 1367
Robbins, W. J., 2938
Robelin, R., 702
Roberts, E. A. H., 960u, 960v, 4150
Roberts, H. A., 1368m
Roberts, J. B., 3060, 4156m
Robertson, J. S., 895
Robertson, M., 187
Robertson, R. N., 1170f
Robertson, W. F., 180e
Robichet, O., 1082j
Robinet, M., 960w
Robinson, B. J., 3399
Robinson, D. W., 1166
Robinson, J., 1889
Robinson, J. A., 3997h
Robinson, J. B. D., 3086, 4088, 4089
Robinson, P. W., 3027 l
Robinson, R., 3796k
Robinson, R. A., 1758, 1786f
Robinson, R. F., 454
Roby, F., 181d
Robyns, W., 4200u
Roca Dumora, J., 2614
de la Rocha G., G., 219y, 1829, 3998, 4010
Rocha de Medina, A. E., 4082
Rochac, A., 3196
Roché, B., 3405
Rochecouste, E., 367
Rockland, L. B., 3457
Rodionenko, G. I., 708
Rodnikov, N. P., 1546e
Rodríguez G., A., 4085
Rodriguez, J. G., 1451
Rodriguez, J. L., Jr., 4031
Rodriguez, O., 4032
Rodríguez, R. A., 3027m
Rodríguez López, M., 1190
Roer, L., 3713
Rogalev, I. E., 1063, 3796q
Roger, N. F., 2835
Rogers, B. J., 504, 3569
Rogers, H., 181e, 389j
Rogers, M. J., 2742
Rogers, M. N., 68q
Rogers, W. S., 235, 2164, 2239e, 2337
Rohan, T. A., 3039, 3057
Roig, F. A., 1786g
Roistacher, C. N., 798, 799, 1723, 1724, 3398
Rojas Garcidueñas, M., 2094
Rojatti, G., 3550
Rojecka, N., 1247
Rojo, N. A., 1349
Rokitzka, A., 2886
Rolin, F., 3997i
Rolin, P., 73
Roll-Hansen, J., 2630
Rom, R. C., 373
Romani, R. J., 3027n
Romano, P. B., 2839z
Romanov, I. D., 1786h
Rombouts, J. E., 2594
Romeike, A., 3198
Romero Castañeda, R., 1620
de Roo, H. C., 1556, 3802
Rood, P., 1153
de Rooij, C., 1216w
Rooke, E. A., 1076
Roorda van Eysinga, J. P. N. L., 506, 3632
Roosje, G. S., 2364
Rootsi, N., 2239f
Rosa, M., 3481
Rosado Dias, M. A. F., 1881
Rosewarne Experimental Horticulture Station (N.A.A.S.), 2046
Rosi, M., 3997j
Ross, J. P., 611
Ross, N. W., 2417
Ross, R., 753h
Ross, R. G., 2228
Rosser, J., 1564
Rossini, R., 3562m
Rotan, A. H., 2428
Roth, L. O., 2511 l
Rothamsted Experimental Station, 4188
Rothrock, J. W., 1703
Roux, D. G., 2840f
Rowan, K. S., 1433
Rowbotham, J. C., 1170g
Rowland, R. L., 1602m
Rowley, G. D., 2945g
Roy, C., 2146q
Royal Horticultural Society, 69, 1727, 1730, 1777
Royal New Zealand Institute of Horticulture, 4197
Royal Tropical Institute, Amsterdam, 2058q, 32261
Rubber Research Institute of Ceylon, 1910
Rubber Research Institute of Malaya, 903, 957, 960x, 960y, 960z, 1352, 4116
Rubin, B. A., 1476, 3655
Rubin, G., 1082b
Rudas, A. P., 3743
Rudloff, C.-F., 118, 2175, 3326
Ruehle, G. D., 884
Ruhland, W., 3197, 3198
Rui, D., 1229, 2010, 3500, 3513, 3638
de Ruiter, J., 160
Rünger, W., 737, 975, 1719, 1720, 1786i
Ruppel, R. F., 2598
Rupprecht, H., 2133
Rural Industries Bureau, 4200v
Rushmore, W. L., 464
Rusk, H. W., 334
Russell, W. A., 80
Russo, F., 782
Russo, G., 1831, 1841c
Rutherford, W. M., 3762
Ruyssen, B., 1996
Ruzinov, P. G., 3778
Ryall, A. L., 177
Ryan, G. F., 2979, 3974
Rygg, G. L., 807
Ryžkova, A. S., 1402

Saanichton Dominion Experimental Farm, 1006, 4189
Sabi Valley Experiment Station, 1015p
Sabirov, M. K., 122
Saccardi, A., 2301u
Sacco, T., 2840g, 4045o
Sachar, R. C., 3088
Sadokova, A. P., 1841d
Sadovnikova, G. I., 99
Sagawa, Y., 669
Sagen, J. E., 386, 3620
Sahadevan, P. C., 2840h
Saharanpur Fruit Research Station, 2047
Saharanpur Horticultural Research Institute, 3223
Sahlström, H., 3330
Sainsbury, G. F., 174, 2227
Saint-Gobain, 1126
Saitô, K., 732
Saitô, T., 424, 1418, 2575, 3170, 3669
Sajnani, B. T., 1567
Sakai, K. I., 2724
Sakai, S., 1969
Sakanishi, Y., 3918
Säkö, J., 1170h, 3309, 3310
Salac, V., 649s
Salama, S. B., 3176u
Salati, E., 1940
Saleh, A. M., 2696
Salgues, R., 2840i
Salibe, A. A., 12, 1840u, 4032
Salimei, F. S., 3903x
Salinger, J. P., 709
Salisbury, F. B., 2087

Saljneva, G. A., *see* Sal'neva, G. A.
Salkeld, E. H., 3711
Salmanov, A. S., 3408
Salmond, B., 960k
Šal'neva, G. A., 951, 1988, 3163
Salo, M.-L., 1082k
Salter, P. J., 415, 493, 1507
Saltman, P., 1785q, 1786j
Salvioli, R. A., 3123
Salzmann, R., 1015w
Samak, M. M., 3546
Samish, R. M., 776, 1139, 2274
Sampath, V., 2919
Samra, A. S., 1486
Samuels, G., 942, 1933, 2731, 3106, 3107
Sánchez B., J. L., 1449, 3071
van de Sande, J., 701, 2945h, 2945i
Sandhu, J. S., 940
Sandlin, B. C., 57
Sandret, F. G., 3021
Sandrini, M., 64
Santaella, J., 1565
Santhirasegaram, K., 960k
Santini, R., Jr., 3177w
Santocchia, A., 677
Santoro, R., 1831
Sapko, D. D., 3860
Sardi, F., 3458h
Säringer, G., 1388
Sarkar, S., 1082 l, 2074
Sarkar, S. K., 1842
Sarmah, K. C., 1979, 1999f, 1999g, 3177x, 4157e
Sasaki, S., 2302a
Sasser, J. N., 2533
Sastry, A. S., 2740
Sastry, K. S. S., 1949
Sato, I., 2717p
Sato, T., 2302a
Satyabalan, K., 3177y, 4157f
Satyanarayana, B. S., 3065
Satyanarayana, M. C., 4078
Sauer, M. R., 2308
Sauthoff, W., 1786k, 2784, 3996p
Savary, A., 1317k, 2419
Savel'eva, O. N., 3286c
Savian, A., 1216h
Savidge, M., 2717y
Savos'kin, I. P., 1673e
Šavrov, L. A., 754h
Savzdarg, È. È., 299
Sawachi, N., 1469
Sax, K., 41, 91, 2147c, 2460
Sayed, M. Q., 259
Sažko, M. M., 2803
Scaramella Petri, P., 2975
Scaramuzzi, D., 148
Scaramuzzi, F., 100, 102, 1828, 2010, 2239g
Scaramuzzi, G., 240, 249, 1786 l
Scarascia, G. T., 3, 2726
Schaefers, G. A., 1266
Schagen, R., 3898
Schairer, J. F., 2946j
Schander, H., 1091, 2172, 3460, 3492
Schanderl, H., 214
Schantl, D., 280
Scharif, G., 786
Scharpenseel, H. W., 1843
Scharrer, K., 1082m, 1082n, 1082o, 1376
Schechter, M. S., 2009
Scheffer, R. P., 519, 3931
Schellenberg, A., 2449h
Schenck, N. C., 2578
Schenk, W., 204
Schick, E.-R., 1673f
Schindler, A. F., 3997k
Schlegel, D. E., 3837
Schmeling, B. V., 2140
Schmid, K., 559, 3805, 3809, 3856m
Schmidt, M., 3562n
Schmidt, N. O., 921
Schmidt, R. G., 672
Schmitt, N., 3562o, 3562p
Schmitz, G., 1882
Schnathorst, W. C., 478
Schneider, F., 2449i
Schneider, G., 1326
Schneider, G. W., 2209, 3345
Schneider, H., 822y, 822z
Schneider, M., 2321
Schnelle, F., 2321, 2449j
Schofield, E. R., 275
Scholz-Günther, E., 3901
Schomer, H. A., 174, 2227
Schoorel, A. F., 2147d
Schread, J. C., 3975
Schrenk, W. G., 68c
Schröder, H., 593
Schroeder, C. A., 31, 4000
Schroeder, W. T., 2595, 3687
Schroeter, H. B., 3825
Schröter, H. B., 3934
Schrumpf, W. E., 1456
Schubert, O. E., 3582
Schuch, K., 1238
Schuder, D., 2929
Schuder, D. L., 1757, 3997 l
Schuldt, P. H., 525
Schüle, H., 977
Schulte-Scherlebeck, —., 278
Schultz, G. R., 4016
Schultz, J. H., 3401f
Schulz, F., 2167
Schulze, G. M., 3909
Schuphan, W., 3644, 3646, 4169
Schupp, F., 1488
Schuster, G., 1622
Schuster, H., 2601
Schutt, K., 2911
Schütte, K. H., 68r, 2633
Schuurman, J. J., 3350
Schwartz, H. M., 2782
Schwarz, K. G., 1099
Schwarzenbach, W., 2239h
Schweizer, H., 3562q
Schwope, D., 2133
Sciaroni, R. H., 57, 749, 1681
Sciuchetti, L. A., 597
Scossiroli, R. E., 3
Scotland, Department of Agriculture for, 3226d, 4200m
Scott, D. H., 219j, 219k, 1216t, 1316 l
Scott, H. E., 3711
Scott, W. E., 2840j
Scott, W. O., 3621k
Scottish Agricultural Improvement Council, 3402
Scottish Horticultural Research Institute, 1007, 4190
Scottish Society for Research in Plant Breeding, 4200w
Scully, N. J., 3271
Ščupak, K. D., 3778
Scurfield, G., 2100
Seale, C. C., 615
Seamands, D., 1514
Searle, S. A., 976
Seatz, L. F., 2588, 2690
Seay, W. A., 1554
Secrett, A. W., 3796r
Sedov, E. N., 1114, 3333
Seegmiller, C. G., 3425
Seeley, J. G., 754i
Seelkopf, C., 2601
Šeftel', I. M., 2962
Segall, R. H., 3078
Sehm, E., 3938
Seigle, L., 742
Seitzer, J., 977
Selhime, A. G., 793
Selim, H. H. A., 24
Selivanova-Gorodkova, E. A., 181f, 1170i
Sell, H. M., 2590, 3024
Selle, R. M., 763, 1841e
Selman, I. W., 505, 1546f
Semaš, D., 2194
Šen', C., 2155
Sen, J. L., 2839c
Sen, S. C., 4132, 4140
Senda, J., 1055, 1540
Šendrikov, G. L., 1075
Sequeira, L., 3035, 4055
Sequeiros, J. M., 2730
Serafimov, S., 1797
Sereda, G. T., 1201
Sergeant, G. A., 3796s
Sergeev, L. I., 1110, 3332
Sergeeva, K. A., 1110, 3332
Serini, G., 3450

Serota, S., 2793
Serry, M., 2840k
Servazzi, O., 2945k
Serzedello, A., 3728
Seshadri, T. R., 2944o
Seshagiri, P. V. V., 837
Seth, J. N., 2457
Sethi, A. S., 1673g, 2823
Šetlík, I., 2124
Sevast'janova, M. I., 2508
Sewell, G. W. F., 3207
Sexsmith, J. J., 2500, 2501
Seychelles Department of Agriculture, 1008
Seyman, W. S., 463
Seymour, C., 219p
Shafer, N. E., 3621i
Shah, H. M., 2758
Shahwan, A. A. M., 3640
Shambaugh, G. F., 2009
Shanks, J. B., 1702, 1774
Shao, L., 2888
Sharma, G. D., 3145
Sharma, S. L., 937, 1998f, 1999h, 3146
Sharp, M. A., 1673h
Sharpe, R. H., 216, 2161
Sharples, G. C., 777, 803
Shaw, F. R., 1310, 2252, 3933
Shaw, L., 1560, 1585
Shaw, R. L., 1594
Shaw, W. C., 3597
Shaw, W. M., 2252
Shea, W. D., 1261
Shear, G. M., 2306
Sheard, G. F., 491, 1069
Shearer, T. M., 2708
Sheehan, T. J., 2874, 2885, 2890
Sheets, T. J., 3621j
Shell Company of Venezuela, 407, 1009
Shell Petroleum Co. Ltd., 4198
Shen, C., 1391, 2155
Shepherd, F. W., 2325, 3227
Shepherd, K., 828
Shepherd, L. N., 403, 1632
Sher, S. A., 294, 2392, 2785, 2924
Sherman, M., 451, 3534
Sherratt, H. S. A., 1785h
Sherwood, C. H., 3916
Shetty, K. R., 3176b
Shewfelt, A. L., 432, 452
Shibukawa, D., 3401g
Shibukawa, J., 3339
Shibutani, S., 3719
Shickluna, J. C., 3631
Shigeta, T., 1836
Shimizu, T., 541
Shimokawa, M., 1416
Shimomura, T., 1602i
Shiraki, S., 2851
Shiraki, Y., 2851
Shirck, F. H., 1462
Shisa, M., 2921
Shive, W., 2718b, 2718c
Shoji, K., 1742, 4090
Shoushan, A. M., 2945l, 2945m, 2945n
Showalter, R. K., 411
Shrivastava, B. B., 1999h
Shugars, J. P., 3606
Shull, A. V., 4019
Shultis, A., 3383
Shur, Y., 781
Shutak, V., 1173
Siddiqi, Z. A., 1950, 1953
Siddiqui, S., 603
Sidorov, V. Ja., 62
Sieber, J., 1745
Siegelman, H. W., 1770, 2147e
Sierra Leone Department of Agriculture, 2058r, 3226m
Sievers, A. F., 1665
Sigal, L. A., 2768
Sigalov, B. Ja., 3573
Ši Huj-fên', 3662
Silberschmidt, K. M., 1546g, 1546h, 2845
Sills, V. E., 4073, 4074, 4075, 4157g
Silva Araújo, A., 4157h
Simão, S., 3728, 4103
Simard, J., 1404, 3489
Simon, E. W., 3285z
Simon, J.-L., 1202
Simon, M., 1169y
Simon F., J. E., 3789
Simpson, G. M., 3286a
Simpson, K., 2528
Simpson, S. C., 535i
Sinel'ščikov, R. G., 3400i
Singapore Botanic Gardens Department, 1015q
Singh, B., 2456
Singh, D., 1460, 2004
Singh, G. P., 426
Singh, H., 940
Singh, K., 3717
Singh, K. P., 1943
Singh, L. B., 1841f, 1894, 1895, 1999i, 3090, 3103, 3104
Singh, M. P., 3091
Singh, R., 2004
Singh, R. K., 937
Singh, R. L., 1895, 2047
Singh, R. N., 1841g, 1999i, 3177z
Singh, R. P., 906
Singh, S. M., 95, 96, 3094
Singh, S. N., 2838
Singh, T. C. N., 1690
Singh, U. P., 1079, 2182
Singh, U. R., 1894, 1999j
Singh, W., 1935
Sinha, R. N., 1947
Sinjuhin, A. M., 1546i
Sin'kova, Z. A., 3420
Šipalov, M. S., 4157i
Sirotenko, A. A., 2780p, 3841
Sirry, A. R., 2717z, 2718a
Sisakjan, N. M., 467, 1183
Sítař, J., 1400
Sivadjian, J., 3286b
Sjulin, J. J., 3987
Skerrett, E. J., 337x
Skilton, W. E. T., 3915
Skinner, C. G., 2718b, 2718c
Skinner, J. C., 3124
Skiver, R., 2868
Skobeleva, N. I., 953, 1025
Škurat, D. F., 2798
Slabyhoudek, K., 1673i
Sladký, Z., 614
Sladovník, K., 466
Slakter, R., 3795x
Slater, C. A., 1652, 2839s, 3888
Slater, W. G., 477
Slatyer, R. O., 494, 1066
Slavvo, A. V., 2289, 3442, 3445
Sleep, K. C., 4098
Sleesman, J. P., 2717a, 2718d
Sleeth, B., 4019, 4024
Slife, F. W., 3621k
Slomnicki, I., 2665
Small, R. H., 4022
Smartt, J., 3749
Šmatok, I. D., 3698
Smeby, R. R., 3834
Smeets, L., 114
Smirnoff, W., 3004
Smirnov, B. M., 2509
Smirnov, N. A., 486
Smit, W. B. de V., 1132
Smith, A. F. G., 823a
Smith, B. A. J., 1363
Smith, B. S. W., 1613
Smith, C. B., 1199, 1520, 3796v
Smith, C. L., 1211
Smith, C. R., 3424
Smith, D., 2170
Smith, D. E., 1512
Smith, F. D., 1368n
Smith, F. F., 685, 3597, 3928
Smith, F. G., 3174
Smith, G. E., 535j
Smith, G. N., 1368o
Smith, H. C., 1493, 3795t
Smith, H. J., 50
Smith, J., 345
Smith, J. D., 3951, 3954, 3955, 3956, 3957, 3958, 3959, 3960
Smith, J. H. C., 968
Smith, L., 4172
Smith, L. M., 3562r
Smith, M. C., 2255
Smith, M. V., 2185
Smith, P. F., 1798, 1800
Smith, P. G., 1535
Smith, P. R., 1499

Smith, R. F., 337y, 3216
Smith, R. J., 513
Smith, T. B., 66
Smith, W. A., 1588
Smith, W. H., 1163, 1546j, 3426, 3712, 3736
Smith, W. R., 3968
Smith, W. T., Jr., 1451
Smith, W. W., 3476
Smock, R. M., 1159, 3096, 3393
Snapp, O. I., 1278
Sneep, J., 479, 1495, 1546k
Snyder, J. C., 2239i, 3287, 3403, 3686
Snyder, J. H., 138
Snyder, L. C., 1101
Snyder, W. E., 1768
Sobajima, Y., 2238q
Soboleva, G. A., 3162, 3176h, 4157i
Sobti, S. N., 1628, 1672r
Società Italiana di Fitoiatria, 3549
Société d'Horticulture Pratique de Nice et des Alpes-Maritimes, 2841
Soczek, Z., 127
Soenen, A., 262, 3491
Soil Science, 47
Sokoloff, B., 1814
Sokolov, A. K., 2171
Sokolov, P. D., 3903y
Sokolova, E. P., 124
Sokolova, V. E., 3286c
Sokol'skaja, A. M., 2787
Solaroli, V., 2425
Solberg, R. A., 2147f
Soliman, A. A., 3027o
Solt, M. L., 2747, 2748
Som, R. K., 1857
Somers, E., 332
Sommer, N. F., 178
Sommerfeldt, K., 3795k
Somos, A., 3755
Sondheimer, E., 465, 2070
Sonvil, W. A., 193
Soost, R. K., 1509, 2973, 3026s, 4003
Sorensen, H. B., 527
Sorge, P., 2302e
Sorokin, V. S., 2519
Sosa-Bourdouil, C., 45
Soudek, J., 1673j
Soukup, J., 1682
Soule, M. J., Jr., 2997, 3002
South African Sugar Association, 1931
South African Sugar Journal, 1928
South Australia, Botanic Garden, Adelaide, 3226n
South Australia, Minister of Agriculture, 1015r
Southwick, F. W., 3391
Soyez, J. L., 2467
Spadaro, J. J., 4157b
Sparnaaij, L. D., 888
Sparrow, A. H., 1159
Spasoff, L., 2701
Spector, C., 31
Spector, W. S., 2013
Spencer, D. M., 3497
Spencer, E. J., 25
Spencer, E. R., 4163
Spencer, H., 793
Spencer, J. L., 605
Spencer, M. S., 3753
Spender, B., 2718e
Spetsig, L. O., 3885
Spicer, P. B., 2144
Spiegel, P., 1139, 2274
Spina, P., 148, 217, 219z, 1216u
Spit, B. J., 2718g
Spivakovski, N. D., 70
Spoelstra, P. A., 3275
Spoon, W., 1841h, 3178a, 4068
Špota, L. A., 3466
Sprague, R., 2343, 2360, 2448g
Sproston, T., Jr., 692
Spurný, M., 614
Spurr, A. R., 1546 l
Spurrier, E. C., 3621k
Šreter, A. I., 604
Sriram, T. A., 961a
Srivastava, D. D., 1948
Srivastava, R. C., 1998f
Srp, A., 3881
van Staalduine, D., 2465, 2494
Staatliche Lehr- und Forschungsanstalt für Gartenbau, Weihenstephan, 3225
Stadtherr, R. J., 373, 3594
Staehelin, M., 2387, 2449k, 2449 l, 3856n
Stafford, H. A., 3285s
Stagg, S. B., 3562s
Stahl, C., 3226o
Stahl, M., 3922
Stahn, B., 739, 2133, 3978
Stalé, J., 220a
Stamper, E. R., 1354
Stanberry, C. O., 2527
Stanhill, G., 8, 58, 2638, 3238
Stanier, R. Y., 2058e
Stanko, S. A., 2081
Staňková-Opočenská, E., 1689
Stanley, J. M., 3845
Stanton, D. J., 2683
Stapley, J. H., 2449m
Stark, C., 1683
Stark, F. C., 1543
Staševskaja, Ju. A., 2743
Statens Forsøgsvirksomhed i Plantekultur, 184, 385, 497, 1103, 2718f, 3417, 3614, 3718, 3768
Stathis, P. D., 3994
Steckel, J. E., 503
Stedman, O. J., 3485
Stedman, R. L., 1602n, 3826
Steed, J. N., 3400r
Steeves, M. W., 33
Steeves, T. A., 33
Ştefan, N., 2239j
Stefani, A., 3459a
Stefanides, C., 1840f
Stefanova, M., 584, 2754
Stehlé, H., 926, 927
Steib, R. J., 934, 4137
Stein, E., 2979
Stein, G., 475
Steinacker, M. L., 768
Steinberg, J., 4174
Steinberg, R. A., 1547, 2737, 4172
Steindl, D. R. L., 936
Steiner, A. A., 2945u, 3937
Steiner, H., 2404
Steiner, L. F., 1281
Steinhaus, E. A., 337y, 526, 3216
Steinmetz, E. F., 2014, 3199
Stelmach, Z., 1546m
Stelter, J., 1057
Stelzer, L. R., 2410, 3532
Steninger, M., 3885
Stenning, L., 754j
Stepancev, I. N., 232
Stepanov, P. A., 1216v
Stephen, R. C., 545, 2760, 2761, 2762, 3854
Stephens, J. C., 3621 l
Stephens, S. E., 3776
Stephenson, J. W., 3401d
Sterges, A. J., 2588, 2690
Sterling, C., 2718g
Šternberg, M. B., 1140
Stessel, G. J., 2923
Stevens, G. A., 2223
Stevenson, C. D., 1161
Stevenson, G. C., 961b
Steward, E., 370
Steward, F. C., 2147g
Stewart, I., 823b, 4013
Stewart, M. J., 369
Stewart, N., 2239k
Stewart, W. S., 2099, 2291
de Stigter, H. C. M., 425
Still, T. W., 39
Štin, E. T., 2169
Stinson, R. F., 2881, 2887
Stobiecki, W., 1454
Stoddard, E. M., 3996j
Stoïanova-Ivanova, B., 754k
Stojanović, D., 269, 270, 2367
Stokes, G. W., 1602r
Stoll, C., 1785m
Stoll, K., 2229
Stolle, G., 106
Stolwijk, J. A. J., 1082t

Stolzy, L. H., 775, 1841i, 3027r
Stombler, V., 1528
Stone, H. M., 1313
Stone, O. M., 3796t
Storey, I. F., 1317 l
Storey, W. B., 3027p
Story, C. G., 4157j
Stott, G. L., 215
Stoughton, R. H., 68s, 1116
Stover, L. H., 2273
Stover, R. H., 3034, 4057
Strang, R. M., 1667
Straniero, D., 2222
von der Straten, I., 1057
Štrausberg, D. V., 3769
Stretch, A., 2250
Strietman, H., 3327
Strigoli, P., 2975
Strømme, E., 1515, 3925
Strong, M. C., 523
Struble, F. B., 272
Struckmeyer, B. E., 3806
Struelens, H., 1673c, 1861
Stryckers, J., 1360
Strydom, J. C., 2945o
Stuart, N. W., 1715
Stubbe, H., 4200x
Stumpf, P. K., 823c
Sturdy, M., 79, 391
Sturgess, O. W., 515
Sturgess, V. C., 1785t
Sturiale, F., 4045p
Sturm, M., 2151
Štys, Z., 3882
Su, C., 2840 l
Su, N.-R., 899, 1907
Suárez de Castro, F., 3178b, 4085
Subbaiah, J., 1998c
Subbioni, F., 4039
Subbotovič, A. S., 1198
Subrahmanyam, V. V. R., 638, 639
Suchár, A., 3903c
Sudnik, N. S., 3363
Sugahara, K., 589f
Sugahara, Y., 2302b
Sugiyama, C., 1416
Suit, R. F., 1807, 1813
Sulakadze, T. S., 1804
Sultanov, Z. D., 2672
Šumanskaja, M. G., 3796u
Summerhayes, G. S., 3459b
Summers, F. M., 2417, 2448o
Sun, Ju, 2518
Sun, V. G., 916
Sun, Y.-P., 2009
Sundararaj, J. S., 961a
Sunday, M. B., 2997
Sungkono, —., 3903z
Šuničev, S., 1414
Surguladze, Š. M., 1841j
Surre, C., 2481
Sutherland, D. J., 1310
Sutherland, F. H., 1230
Sutherland, G. K., 3176z
Šutić, D., 255, 3480
Suyama, I., 1569
Suzuki, I., 2302b
Suzuki, M., 68h
Suzuki, Y., 1823
Svechnikova, I. N., 1673k
Švedskaja, Z. M., 1473, 1474
Sventitskii, I. I., 3661
Svinareff, —., 1673a
Swales, J. E., 2395
Swan, A. D., 1999k
Swanson, C. A., 2268
Sweet, D. V., 35
Sweet, R. D., 1357
Swenson, K. G., 747, 2596, 3984
Swiatopolk-Mirski, A., 3897
Swingle, H. S., 1327
Swinzow, H., 145
Swirski, E., 3530
Sylvain, P. G., 3178c, 4157k
Sylwester, E. P., 377
Sze, W.-B., 366
Szinai, S., 2794
Szkolnik, M., 3488, 3505
Szmidt, O., 1428
Szymusik-Kumelowska, I., 1382

Tabayoyong, F. T., 1999 l, 3121, 3132, 3133, 3144, 4127, 4128
Tachikawa, T., 823d
Tadić, M., 316, 1317m
Tager, J. M., 761, 838
Tahori, A. S., 3530
Tai, E. A., 4052
Taillefer, G.-B., 3997m
Taimr, L., 1647
Takahashi, K., 1179, 1823
Takahashi, M., 428
Takahashi, T., 2734, 3161
Takahashi, W. N., 574
Takami, —., 3264
Takanashi, S., 1713
Takasaka, R., 3997p
Takayanagi, H., 3160
Takeda, A., 1055, 1540
Takeshita, S., 1802
Talbert, C. M., 1034
Talboys, P. W., 1646
Talybov, N. S., 3158
Tamashiro, M., 451
Tamási, J., 3455
Tamburo, S. E., 258
Tamir, P., 1139
Tamura, T., 724
Tanaka, J., 534i, 3795o
Tanaka, S., 2998
Tandon, R. K., 906, 1958
Tandon, R. N., 2982
Tandon, S. L., 693, 1691, 1786m, 2944c
Tang, K. H., 913
Tanganyika Agricultural Corporation, 2048
Tanganyika Department of Agriculture, 3217
Tanganyika, Government Chemist, 1015s, 4192
Tanganyika Sisal Growers' Association, 616
Tani, T., 3016
Tanić, B., 239
Tao, E., 1212
Taper, C. D., 439
Tapley, R. G., 1888
Tarakanova, G. A., 1838
Taran, L. D., 3745
Tariel, P., 589q
Tarjan, A. C., 3027q
Tarutani, T., 3023
Taschenberg, E. F., 1283
Tashima, Y., 3716
Tasmanian Department of Agriculture, Agronomy Division, 347
Tasmanian Department of Agriculture, Plant Pathology Division, 3484
Tate, H. D., 389k
Tatebe, T., 460, 535k
Tatsuno, Y., 1134
Tattje, D. H. E., 2792
Tavadze, P. G., 202
Taveirne, W., 2849
Tayel, M. A., 2717o
Taylor, C. E., 2985
Taylor, C. M., 2063
Taylor, D. J., 3052
Taylor, G. A., 1520, 1521, 3796v
Taylor, G. S., 3844
Taylor, H. D., 535f
Taylor, O. C., 775, 3027r
Taylor, P. V., 3989
Taylor, R. E., 275
Taylor, W. S., 1367
Taylorson, R. B., 357, 373, 3590
Taysum, D. H., 1927, 1999m, 1999n, 1999o
Tea Research Institute of Ceylon, 1959
Tea Research Institute of East Africa, 1960, 2057, 4142
Teakle, D. S., 427, 1841k, 1901
Teas, H. J., 2874, 2885, 3114
Teeri, A. E., 3904a
Tejwani, K. G., 3813, 3814
Teliz Ortiz, M., 1446
Temkin, V. I., 535 l
Templa, M. A., 827
Templeton, H. M., Jr., 2142
Templin, F. J., 632

Tepe, W., 1711
Ternovskij, M. F., 2723
Terpó, A., 3401h
Teterev, F. K., 1096, 1170j, 2239 l
Teterin, P. P., 3285n
Teubner, F. G., 492
Teuscher, H., 1761, 2843
Tew, R. P., 314
Tezuka, T., 568
Thakur, C., 1954
Thakur, D. R., 1142
Thaler, O., 154, 156
Thaung, M. M., 443
Théau, A., 753j, 2944g
Theiller, G., 2624
Thein, M. M., 21
Theis, T., 634, 1608
Thellot, B., 2504
Therman, E., 3997n
Thévenin, L., 1546n
Thiele, K. P., 3919
Thiem, H., 978
Thieret, J. W., 3904b
Thistle, A., 1368p
Thomas, G. L., Jr., 4164
Thomas, H. R., 535u, 2718n
Thomas, I., 2449n
Thomas, K. M., 1872
Thomas, M. D., 3197
Thomas, P. R., 3947
Thomas, W. O., 522, 3795p
Thomason, I. J., 2785
Thompson, A. H., 2239m
Thompson, B. D., 411, 471, 2522
Thompson, F. B., 1366
Thompson, F. C., 623, 625, 629
Thompson, H. M., 1941, 1942
Thompson, L. A., 2239o
Thompson, R. C., 1489
Thompson, W. L., 2991
Thomson, G. M., 910
Thomson, R. H., 4165
Thorne, G. N., 473
Thorne, W., 2011
Thorold, C. A., 854, 1856
Thorsrud, J., 2257, 2258
Thorup, S., 1037
Thoukis, G., 3458a
Thresh, J. M., 3039, 4064
Thurber, G. A., 2592
Tibbitts, T. W., 1568, 3856i
Tiberio, M., 649t
Tiessen, H., 1516, 2448u
Tihomirov, B. A., 3229
Tihonov, N. P., 2239j, 2418
Tikamoto, T., 3894
Tilemans, E. M., 337z
Tilgate Research Station, 1525
Till, B. B., 2380
Till, M. R., 1064, 2191, 2448e, 3443
Timberlake, C. F., 46
Tindale, G. B., 2369
Tinga, J. H., 2867
Tinker, P. B. H., 959i
Tippins, H. H., 2640
Tirelli, M., 338a
Tischer, J., 2830
Tisseau, M. A., 1997q
Tissot, A. N., 338b, 338c, 589k
Tobacco Research Board of Rhodesia and Nyasaland, 589r
Tobe, Y., 1317n
Tobias, K. I., 958
Todaka, S., 2302b
Todd, F. A., 589s, 3856o
du Toit, J. L., 923, 3128
Tokar, L. O., 3304
Tolba, M. K., 2696
de Toledo, T. A. N., 3870
Toll Jubés, J., 1840y
Tollenaar, D., 3048, 3051
Tomalin, A. W., 3969
Tomaszewska, E., 158, 159, 636, 648, 2242
Tomaszewski, M., 158, 159, 636, 648, 2242
Tombesi, L., 553, 3237, 3265
Tomes, M. L., 481, 3759
Tomita, Y., 3286f
Tomkins, R. G., 1010
Tomlinson, J. A., 2639
Tong, T. H., 902, 1915, 1922, 1925
Toniolo, L., 3629
Toohey, C. L., 1999p
Toorenaar, G., 1221, 2449o
Topčijski, S., 2254
Topper, B. F., 3039
Torčinskaja, V. M., 3853
Torfason, W. E., 80
Torii, H., 1983, 3165
Torres, C. B., 534n
Torres de Mello, A., 4157 l
Torrey, J. G., 4172
Tosello, A., 961c
Toshima, A., 2449p
Tóth, E., 3367
Totubalin, N. N., 2772
Toussaint, W. D., 1593, 3735, 3847
Towers, G. H. N., 2096, 2146q
Townes, H. K., 3846
Townsend, G. F., 2185
Toyao, T., 1962
Toyoda, T., 2904, 3950
Tradardi, F., 2010
Traylor, J. A., 245
Treece, R. E., 1756
Treiber, E., 3200
Trevett, M. F., 1336, 2511m
Triana, B. J. V., 872
Trifu, I., 2780q
Trim, L. G., 535m
Trinidad and Tobago Department of Agriculture, 2049
Tripathi, R. D., 3103, 3104
Trippi, V. S., 1957, 1995
Trnková, A., 2124
Trocmé, S., 2201, 2309
Trofimov, M. V., 3793
Troickij, E. P., 2302c
Troníčková-Poláková, E., 1546o
Trouillon, L. L., 355
Trubnikov, V. F., 2773
Trupin, F., 1997q
Trzcinski, T., 132, 2606, 2611
Trzebiński, J., 1673 l
Tschobanoff, D., 591
Tseng, P. M., 922
Tso, T. C., 3816, 4172
Tsukamoto, Y., 683, 704, 1699
Tucakov, J., 599, 606
Tucakov, Y., 2840m
Tukey, H. B., 1170k, 3269, 3286d, 3312
Tukey, H. B., Jr., 3340
Tulajkova, K. P., 2802
Tullen, P., 1672k
Tunisie, Service Botanique et Agronomique, 4193
Tupicyn, D. I., 3323
Turchi, A., 535n, 535o
Tureckaja, R. H., 1193
Turkot, V. A., 2835
Turlygina, E. S., 3675
Turner, D. H., 433, 1432, 1433
Turner, F., 2553
Turner, J. F., 433, 1432
Turner, J. S., 1082p
Turrell, F. M., 1822, 2977
Tutajuk, V. H., 2180
Tuz, A. S., 3454
Tweedy, B., 2449q
Twigg, B. A., 1543
Tyce, G. M., 751
Tydeman, H. M., 2157
Tysser, H. F., 2050

Udo, S., 609
Ueda, K., 1980, 3169
Uehara, T., 1545a
Ueki, K., 2582, 2583
Ueno, K., 1786n, 3178d
Ueno, Y., 704
Uganda Department of Agriculture, 1011, 3218
Uhe, G., Jr., 2249
Uhlenbroek, J. H., 3694
Uhler, R. L., 2125
Ujevic, I., 1448
Ukrainec, N. S., 3561f
Ulrich, R., 70, 154, 163, 1824, 4172
Umbreit, C. S., 652
Underhill, J. P., 2548
UNESCO—*see* United
Union Carbide International Company, 2449r

Union of South Africa, Department of Agriculture, 4199
United Nations, 4166
United Nations Educational, Scientific and Cultural Organization (UNESCO), 2058s
United Planters' Association of Southern India, 3147
Unterstenhöfer, G., 450
Unwin, C. W. J., 979
Uota, M., 1208
Uozumi, T., 541, 542
Upchurch, W. J., 221
Uribe Arango, H., 3075
Uriu, K., 2210
Urquhart, D. H., 840
Urquijo Landaluce, P., 220b, 1210, 1255, 1285
Ušakova, E. I., 1465
U.S. Agricultural Research Service, Entomology Research Division, 337h
U.S. Department of Agriculture, 1015t, 1015u, 1082q, 1602o, 1673m, 1786o, 1999q, 2015, 3219, 4157m, 4157o, 4200y, 4200z, 4201a
U.S. Department of Agriculture, Crop Reporting Board, 1545f
U.S. Department of Agriculture, Foreign Agricultural Service, 823e, 961d, 961e, 1602p, 1999r, 3178e, 3178f, 4157n
Usman, S., 2449g, 3141
Usmanov, H. U., 2821
Uspenskaja, E. V., 1379
Usubillaga, A., 3893
Uttaman, P., 1999s

V., G., 2259
Vail, J. W., 1667
Vaitekunas, A. A., 2778
Valderrama, L. E., 1583
Valenciano, O. A., 3102
Valenzuela Samper, G., 3027d
Valleau, W. D., 1602q, 1602r, 2780r, 3856p
Valsala, P. G., 3178g
Vamvacas, N. J., 1840f
Vanetti, F., 3178h
Van Gundy, S. D., 1546p
Van Horn, C. W., 771
Vanicek, K.-H., 3360
Vanithamony, P., 1944
Van Middelem, C. H., 3658, 3796w
Van Rensselaer, M., 2945p, 3997o
Van Steveninck, R. F. M., 7541, 1706
Vanwetswinkel, G., 1160, 1292
Varadarajan, B. S., 3178i
Vardar, Y., 1044
Vargas S., R., 448, 3681, 3684
Varner, J. E., 1023
Váróczy, E., 3259
de Vasconellos, P. W. C., 823f
Vasil, I. K., 1050
Vasil'čenko, I. I., 3459c
Vasiljević, L., 1317m
Vasudevan, C. K., 1890, 1999t
Vayssière, P., 2478, 2780s, 4157p
Vdovceva, T. A., 3335
van der Veen, R., 1679, 3241
Veeraraghavan, R., 1964
Vega, J., 220c, 1194, 2285
Vekemans, J., 2753
Velasco, J. R., 1865
Ven, S.-T., 1837
Venkatakrishniah, N. S., 3027s
Venkataraman, K. V., 3813, 3814
Venkataraman, R., 4155
Venkataraman, S., 1938
Venkataramani, K. S., 1964
Venkataratnam, L., 1546q
Venkateswaran, M., 2740
Venketram, T. M., 534k, 1546r
Venning, F. D., 2959
Vereščagin, B. V., 2449s
Verheyden, J., 2829
Verlot, J.-B., 163
Verma, U. P., 1826
Verneau, R., 3481
Verner, L., 233, 2214, 3562t
Vernier, G., 3997m
Vernon, J. D. R., 687
Verona, O., 1322
de Verteuil, L. L., 842, 4157q
Veski, V., 719
Viado, G. B., 1546s, 1673n
Vibstad, A., 1498
Vicario, B. T., 1843
Vickery, H. B., 564, 565, 1786p
Vidal, P., 819, 3861
Vidstad, A., 1498
Vidvei, E., 1437, 1546t, 2567
Viégas, A. P., 1878, 3081
Viel, G., 68t
Viglierchio, D. R., 434
Vijayasaradhy, M., 925, 1944, 4156z
Vijzelman, H. E., 2629
Vik, J., 2568
Vil'jams, V. V., 2626
de Vilmorin, R., 1496
Vincent, L., 3849
Vineland Horticultural Experiment Station, 3192, 3215
Violante, C., 3459d
Virgin, H. I., 661
Virginia Agricultural Experiment Station, 3220
Visco, S., 2010
Višnevskij, S. I., 483
Vitkovskij, V. L., 220d, 3321, 3406, 3411, 3416
Vittum, M. T., 413, 1546u, 3687
Vivacqua, A., 640
Vix, H. L. E., 2834, 4157b
Vjazov, A. A., 1635
Vlasjuk, P. A., 1041
van der Vliet, M., 2547
Vlitos, A. J., 438, 2090
Vnučkova, V. A., 535p
Vogel, G., 54, 2133, 2515
Vogel, H., 736
de Vogel, P., 750
Vogel, W., 2401
Volhovskaja, U. V., 1630
Volk, G. W., 2691
Volodarskij, N. I., 1698
Vološin, M. P., 748, 2800
Vorob'eva, N., 1415
Vörös, J., 1248
Voskan'jan, S., 1502
Voskresenskaja, N. P., 3242
Voth, P. D., 706
Voth, V., 1178, 2335, 3422
Voznesenskij, V. L., 3240
van de Vrie, M., 302, 1260, 1267
Vuittenez, A., 3479
Vuorinen, J., 2177
Vysockij, A. A., 2159
Vyvyan, M. C., 113

Waalkes, T. P., 3178j
Wäckerlin, O., 3459e
Wada, E., 1579, 1602s
Wade, E., 2301n
Wadsworth, V., 2780t
Wager, H. G., 1435, 2147h
Waggoner, B. E., 3668
Wagner, E., 3428
Wagnon, H. K., 245
Wain, R. L., 68u, 2511n, 3616
Waites, R. E., 3796w
Wakisaka, I., 1316s
Walens, H. A., 2793
Wali, Y., 2238i, 3026n
Walker, C., 1736
Walker, C. R., 3576
Walker, D. R., 1112, 1219
Walker, E. K., 547, 3811
Walker, J. C., 416, 443, 1545h, 1546p
Walker, R., 1439
Walker, W. F., 1155
Walkinshaw, C. H., Jr., 822o
Wall, M. E., 2793
Wallace, A., 440, 757, 2950, 3974

Wallace, J. M., 4000
Wallace, T., 68v
Wallihan, E. F., 3999
Wallis, R. L., 335
Walsh, N. M., 4157r
Walter, J. M., 535q
Walters, S. S., 3528
Walton, R. R., 3739
Waltz, P., 2780u
van Wambeke, A., 892
Wampler, E. L., 2361
Wang, C. H., 3795 l
Wang, C.-S., 4136
Warburg, E. F., 1786q
Ward, G. M., 153, 3771
Ward, J. B., 821, 3900
Wardlaw, C. W., 1082r
Ware, C. E., 3027t
Wareing, P. F., 40, 2115, 3251, 3320
Warid, W. A., 2718h
Warington, K., 1082s, 3261
Warley, T. K., 393
Warner, R. M., 89, 130, 137, 286, 293, 3349, 3387, 3541
Warren, G. C., 2468
Warren, G. F., 1512, 1513, 2492, 2718i, 3619
Warren, J. C. R., 342
Washington Agricultural Experiment Stations, 1015v
Washington State College, 2051, 2052, 2053
Washiyama, H., 1983
Wasicky, R., 3865
Wassenaar, L. M., 3458r, 3459f
Wassink, E. C., 22, 968, 1082t, 2005
Watahara, T., 724
Watanabe, —., 3025
Watanabe, T., 1134, 3401i
Waterschoot, H. F., 673
Watson, C. C., 338d
Watson, D. P., 1174, 1784, 2470, 3591
Watson, G. A., 1999u
Watson, J., 2807
Watson, W. W., 3459g
Wattle Research Institute, Pietermaritzburg, 1666
Watts, A. T. J., 1087
Watts, L. E., 2645, 3714
Waxman, S., 2928, 3972
Wear, J. I., 3721
Weatherley, P. E., 1081u
Weathers, L. G., 783, 1841 l
Weaver, R. J., 1205, 2290, 2292
Weaving, A. S., 2776
Webb, A. D., 2302d
Webb, C. R. M., 1499
Webb, D. A., 1015i
Webb, D. v. V., 646
Webb, F. W., 1492
Webb, M. J. W., 2639
Webb, R. A., 46
Weber, F. B. C., 2239n
Weber, G., 1317o
Webster, A. B., 390, 2718j, 2869
Webster, G. R., 53
Webster, W. J., 236, 3446
Wedding, R. T., 2967
Wedin, N., 1568
Wedin, W. F., 3806
Weeks, D., 138
Weeks, W. D., 3343
Wegner, I.-G., 700
Wegner, R., 3409
Weidhaas, D. E., 1305
Weidhaas, J., 2252
Weihing, J. L., 2909
Weiling, F., 3898
Weinard, F. F., 3996t
Weinberger, J. H., 2239o, 2339
Weinhold, A. R., 478
Weinmann, W., 2680, 3644
Weinstein, L. H., 570, 571, 723, 1752, 3967, 3968
Weintraub, M., 243, 3838
Weintraub, R. L., 28, 2451
Weir, T. S., 1101, 1169a
Weisberger, A. S., 1467
Welch, J. E., 2718k
Welchert, P., 181g, 2239p
Weleczka, J., 726, 3280
Welker, W., 382, 3567
Welkie, G. W., 2755, 2780v, 2780w
Wellendorf, M., 3903h
Wellensiek, S. J., 412
Weller, L. E., 1442, 1485
Wellesbourne, National Vegetable Research Station, 3622
Wellman, F. L., 1877
Wells, J. C., 2533
Wenck, F., 977
Wene, G. P., 1408, 3643, 3656, 3734, 3788, 3790
Wenkam, N. S., 404
Went, F. W., 434, 968, 980
Werneck, H. L., 2162
Werner, W., 1082o, 1376
Wertheimer, M., 805
West, E., 753o
West, F. R., Jr., 1614
West African Cocoa Research Institute (W.A.C.R.I.), 3041
West African Institute for Oil Palm Research (W.A.I.F.O.R.), 1898
West of Scotland Agricultural College, 1012, 2058t, 3221
Westaway, S. J., 740
Western Canadian Society for Horticulture, 1013
Western Fruit Grower, 63
Westgarth, D. R., 1917
Westgate, P. J., 421, 2562
Westlake, W. E., 2447
Westmoreland, W. G., 3579, 3603
Westwood, M. N., 2213, 3365
de Wet, A. F., 1093
Weurman, C., 1216w
Weybrew, J. A., 585, 1602t, 2745, 3820, 3827
Whalley, P. E. S., 1853
Wharton, D. C., 1522
Whatley, B. T., 2693
Wheeler, B. E. J., 3842
Whellan, J. A., 3641
Whitaker, J. R., 3371
Whitaker, N., 3728
White, E. P., 649u
White, G. C., 3207
White, J., 339
White, L. M., 753m
White, R. G., 2462
White, R. T., 1606
Whitehead, A. G., 3904c
Whitehead, V. B., 338e, 1295, 2992, 3528
Whitehouse, W. E., 2300
Whiteman, T. M., 2946
Whiting, G. C., 2240
Whittenberger, R. T., 3380
Whittington, W. J., 49
Wiant, D. E., 2370
Wickizer, V. D., 4157s
Widdowson, F. V., 3685
Widmer, R. E., 1776, 3594
Wiebe, J., 2718 l
Wiebosch, W. A., 479
Wieloch, E., 2302e, 3401a
Wiersum, L. K., 2131, 3115
Wierszyłowski, J., 1105
Wigdor, S., 2887
Wiggell, D., 2699
Wiggell, P., 3947
Wight, W., 1999v, 3149, 3150
Wightman, G. M., 1941
Wijbrans, J. R., 904, 1922, 1924
Wijewantha, R. T., 3178k
Wilcox, A. N., 1169a
Wilcox, J., 1304, 2440
Wildbolz, T., 2401
Wildman, S. G., 3234, 3856d
Wildner, G., 11
Wildon, C. E., 722, 1570
Wiley, R. C., 3795j
Wilhelm, S., 191, 337i, 386, 3620
Wilhelminadorp, Proefstation Fruitteelt Volle Grond, 1084
Wilking, E., 2220

Wilkinson, B., 502
Wilkinson, B. G., 1131
Wilkinson, E. H., 3497
Wilkinson, S., 598
Will, H., 1786r
Willam, A., 2606, 2611
Willam-Engels, L., 2606, 2611
Willet, J. R., 881, 1883
Williams, A. H., 46
Williams, J. H., 1082u
Williams, L. O., 2840n, 3904d
Williams, N. D., 1786s
Williams, P. H., 514, 3786
Williams, R. R., 101, 181h
Williams, W., 2068
Williams, W. T., 689, 1478
Williamson, H., 323
Willis, R. J., 296
Willis, W. W., 1678
Willison, R. S., 243
Willner, D., 2794
Wills, W. H., 2757
Wilner, J., 3303
Wilson, C. P. H., 4167
Wilson, D. W., 2347
Wilson, E. M., 3688
Wilson, F. D., 2945q
Wilson, I. S., 535r
Wilson, J. D., 472, 2634, 2700, 2709
Wilson, J. F., 3207
Wilson, J. W., 2559, 3658
Wilson, R. A., 2448m
Windham, S. L., 531
Winfree, J. P., 276
Wingard, S. A., 2701
Winks, W. R., 1312
Winright, G. L., 2059
Winsor, G. W., 489, 495, 3730, 3752, 3770, 3772, 3796e
Winstead, N. N., 2533
Winter, E. J., 8, 1082v
Winters, H. F., 605
Wirth, A., 2238j
Wisconsin Agricultural Experiment Station, 2058u, 4195, 4201b
Wishart, R. L., 1546v, 3503
Wiss, C. B. L., 67
Withrow, R. B., 1082w
de Witt, K. W., 860
Witte, K., 2133
Wittwer, S. H., 400, 401, 437, 492, 667, 690, 714, 2111, 2121, 2520, 2853, 3286e, 3312
Wöber, O., 1562
Wolf, B., 2875
Wolf, F. A., 1550, 1602u, 1602v
Wolf, J., 2219, 3197, 3368, 3401j
Wolfe, H. H., 344, 346, 3563
Wolfe, H. R., 321, 2434, 3562u
Wolfenbarger, D. O., 2953, 3178 l, 4104
Wolff, E. T., 253
Wolff, W. H., 253
Wolffgang, H., 1450
Wolters, K., 1057
Woltz, S. S., 2871
Wong, P.-P., 2983
Wood, C. A., 3296
Wood, D. J., 4144
Wood, F. C., 535s
Wood, G. A. R., 840, 862, 3039
Wood, P. D., 1397
Woodford, E. K., 4172
Woodhead, C. E., 265, 2449t
Woodruff, R. E., 3396
Woods, G. F., 2683
Woods, J. J., 1317p, 3982
Woodside, A. M., 2643
Woodville, H. C., 1731
Woolley, J. T., 1082x, 1518, 2067
Woolliams, G. E., 444
Wooltorton, L. S. C., 2216, 3369
Workman, M., 1530
Wormer, T., 3098
Woudenberg, J. P. M., 2322
Wright, D. W., 3653
Wright, E. W., 3611
Wright, G. M., 2147i
Wright, J. M., 2628
Wright, R. C. M., 2535, 3796x
Wright, W. J., 2141
Wu, M., 2681
Wybenga, J. M., 68w, 3707
Wye College, Department of Hop Research, 618
Wyman, D., 2060, 2945r, 2945s

Yadao, A. I., 2765
Yaga, R., 3789
Yager, R. E., 1573, 3817
Yahiro, M., 1484
Yamada, M., 3400t
Yamada, S., 801
Yamagata, N., 3260
Yamaguchi, M., 2716u, 2716v
Yamamoto, Y., 3286f
Yamazaki, T., 2196, 2197
Yampolsky, C., 1999w
Yanase, Y., 3161
Yang, T. H., 1544
Yasuda, I., 698, 1726
Yasui, A., 1170 l
Yasui, K., 1839
Yasunobu, Y., 1836
Yates, A. R., 3395
Yates, R. A., 931
Yeates, J. S., 3621m
Yee, W., 3027u
Yeh, P.-Y., 3997p
Yelf, J. D., 4049
Yemm, E. W., 4172
Yen, D. E., 535t
Yerkes, W. D., Jr., 1446
Ylagan, M. M., 1673n
Ynalvez, L. A., 4069
Yokomizo, T., 1179
Yokoyama, J., 1726
Yokoyama, N., 698
Yokozawa, Y., 1170 l
Yoshida, D., 2734
Yoshihara, M., 1904
Youard, G. B., 68x
Young, C. M., 932
Young, H. W., 2718m
Young, R. A., 746
Young, R. W., 2552
Young, T. W., 3092, 4100
Young, V. M. K., 968
Younge, O. R., 2477
Youngner, V. B., 3953
Yuan, T. L., 499, 3286g
Yukawa, I., 1823

Zabala, S., 1750, 2382
Zabka, G. G., 2862
Zachariae, A., 2215
Zachos, D. G., 1841m
Zacks, S., 2655, 2656
Zaec, V. K., 1114, 2168
Zagorodnyj, G. P., 2672
Zagorovskij, A. V., 2476
Zagorski, G., 591
Zagoruiko, M. G., 2775
Zahara, M., 2627
Zahradnik, J. W., 3391
Zalenskij, O. V., 1082y
Zalik, S., 3247
Žalnin, V. S., 124
Zanardi, D., 1317q, 1339, 1546w, 3587
Zanotti, L., 220e, 3401k
Zanzibar Department of Agriculture, 2054, 2055
Zappalà, A., 3458v
Zaprometov, M. N., 3164, 4149
Zarubina, M. P., 595
Zattler, F., 649v
Zatučnyj, V. L., 1749
Zaumeyer, W. J., 535u, 973, 2718n
Zavanaju, A., 1020
Zavgorodnij, A. F., 1201
Zawadzki, K., 3833
Zázvorka, M., 1641
Zderkiewicz, T., 1619
Zedler, R. J., 1323
de Zeeuw, A., 2543
de Zeeuw, D., 19
de Zeeuw, D. J., 2710, 3674, 3795b
Zeevaart, J. A. D., 17, 18, 2077, 2078, 2147j
Zehgruber, H., 3625
Zeilinga, A. E., 1393

Zelitch, I., 3851
Zemskaja, V. A., 3249
Zenkevič, G. D., 2058h
Zentmyer, G. A., 822m, 822n, 823g, 823h, 2009, 2951, 2952
v. Zezschwitz, E., 3796y
Ziboh, C. O., 959i
Ziegler, G. A., 2945t
Zielinski, Q. B., 181i, 218, 1144
Ziffer, J., 406
Ziller, R., 4110
Zimmerman, L. H., 3904e
Zimmerman, P. W., 950, 2855
Zink, F. W., 1491, 2718k
Zink, J. B., 3561k
Ziobrowski, S., 1085, 1170m
Zito, F., 1088
Živanović, V., 1277, 2431
Ziver, A., 1361, 1436
Zobel, M. P., 508
Zolotov, A. N., 3278
van Zon, A. Q., 2945u, 3937
Zoschke, M., 2503
Zub, L., 1639, 1640, 1650, 1673o
Zucchini, M., 1170n
Zucker, M., 1599, 3851
Žučkov, N. G., 70
Zueva, N. P., 2510
van Zuilen, E. J., 961f
Žukovskaja, A. A., 3420
Žuravskij, G. I., 1410
Zürich-Oerlikon Agricultural Research Station, 1015w
van der Zwaard, P., 3929, 3964
van der Zweep, W., 2465
Zwintzscher, M., 77

Aalsmeer Res. Stat. Floric., A.R., 3905-3907
Abacá (*Musa textilis*)—*see* Manila hemp
Abelia grandiflora, 2928
Abeliophyllum distichum, 1758
Abscission—*see* Flower drop, Fruit drop, Growth-substances *and* Leaf
Abuta spp., alkaloids, 1672i
Abutilon avicennae, 614
Abutilon spp., variegated, stomatal transpiration in, 661
Acacia—see also Wattle—
microbotrya, 649h
seyal, 1330
spp.—
alkaloids, 649u
growing in France, 2841
tannin biogenesis, 2840f
Acanthophyllum gypsophiloides, 2788
Acanthopsyche junodi, 646, 1666
Acanthoscelides obtectus, 2598
Acaricides—*see also* Insecticides *and* Sprays—
bis(*p*-chlorophenyl)trichloroethanol (Kelthane, etc.), 793, 1260, 1817, 3521, 3988, 4028
chlorbenside (Chlorocide, Chlorparacide, Elimite, Mitox, etc.), 338d, 1302
chlorinated phenyl benzene sulphonates (CPBS, CPCBS, DCPBS, Ovotran, etc.), 1302
demeton (Systox), 1263, 3520, 4030
diethyl *p*-chlorophenylthiomethyl dithiophosphate (Trithion, etc.), 792, 4030
dimefox, 1648
dimethyl dichlorovinyl phosphate, 1389
dimethyl trichlorohydroxyethylphosphonate, 1388
ethyl 4,4′-dichlorobenzilate (Chlorobenzilate), 337x, 1817, 2988
fungicides as, 787, 1840t, 2395, 2990, 4032
malathion-oil, 4033
methyl demeton (Metasystox), 513
mite resistance to, 535d, 2394, 2448v, 3520, 4030
oils, 1261, 1262, 4031, 4033
parathion, methyl parathion and related esters, 2394, 4033
plant growth and injury responses, 3884
residues, 338d
reviews on, 1316z
sulphur and sulphur compounds, 1265
systemic, 450, 1264, 1648, 1756, 3884
tetrachlorodiphenyl sulphone (Tedion), 1302, 1303, 2398, 3694
various and new, 297, 298, 302, 792, 1084, 1267, 1388, 1816, 2396, 2397, 2399, 2403, 2443, 2989
Accounts, farm, preparation and interpretation, 3285 l
Acer—
negundo, 1322
platanoides, 1785f
pseudoplatanus, 2073, 3251
saccharum—*see* Sugar-maple
spp.—
pests, 2929
propagation, vegetative, 1676, 2944h
rootstocks, 91
seed germination, 731
Aceria ficus, 2341
Aceria sheldoni—*see* Citrus, pests, mite, bud
Acetaldehyde in plants, determination, 2147h
Acetylene, flowering induced by, 3177s
Achatina fulica, 1744, 1844
Achoea janata, 996
Achras sapota—*see* Sapodilla
Acidia heraclei, 2717t
Acids, organic—*see also individual acids, and crops under* composition—
determination, 1018, 1150, 1601 l, 2216
flower abscission affected by, 1573
in fungi, 2601
metabolism, 154, 156, 564, 565, 822c, 1058, 1531, 2744, 2752, 3256, 3362, 3368, 3837
in plants, 155, 589 l, 1082g, 1150, 1151, 1431, 1531, 1578, 2240, 2549, 2589, 2695, 2716a, 3070, 3162, 3176z, 3368, 3369, 3750, 3795f, 3831-3834, 3899, 3968, 4156f, 4172
Actinidia chinensis, 1840j, 3458w
Actinidia kolomikta, 1152
Actinomycetes antagonistic to fungi and bacteria, 2580, 3786
Actinonema rosae, 2038
Acyrthosiphon pelargonii, 2448x
Adelaide bot. Gdn, A.R., 3226n
Adhesives from tamarind, 2839x
Adiantum spp., polyphenols synthesized in, 2146q
Adoretus versutus, 2026
Adoxophyes orana, 2426, 2448d, 3169, 3542
Aechmea fasciata, 1786k, 3913, 3996p
Aegle spp., propagation, 2047
Aegopodium podagraria, 389h
Aframomum meleguetta, 1603
Africa—
East—*see* East *and separate countries*
French West and Equatorial—*see* French
North—*see also separate countries*—diseases and pests, 2303
South—*see* South
West—*see* West *and separate countries*
African violet—*see* Saintpaulia

Agaricus—*see also* Mushroom—*blazai*, 2605
Agave—
amaniensis, 3878
cantala, 3878
fourcroydes, 615, 3878
sisalana—*see* Sisal
Ageratum spp., weed control, 2468
Agglutinins, plant, 2786
Agricultural—
dictionary, Finnish, Swedish, German, English, 4161
engineering institutions, int. Directory, 2002
engineering, nat. Inst., Wrest Park, A.R., 1002
research—
Council, A. R., 4171
in Great Britain, index of, 962
in India, 3186
institutions in Europe, index of, 2001
in the U.S.A., workers in, 4201a
statistics—*see also* Trade—
in British Columbia, 4200b
in California, 1081r
colonial, methods of collecting, 2007
in Hawaii, 1015f
in the United Kingdom, 1015k, 3226d, 4200m
Agriculture—
books on, a list of, 4200g
in St. Helena, 2006
tropical—*see* Tropical
Agrobacterium tumefaciens—*see* Crown gall
Agromyza phaseoli, 2020
Agropyron repens, 383, 389i, 2465, 2467, 2497, 3589, 3604, 4184, 4195
Agrostis—
spp., control, 389i
spp., shoot density, 2906
tenuis, 3997d
Air—
conditioning and purification—*see* Storage buildings
layering—*see* Marcotting
pollution and plant injury—*see also under* Fluorine—9, 10, 753s, 1081b, 1683, 2066, 3232
pollution, seed germination improved by, 731
Aircraft, application of chemicals from, 288, 833, 1307, 1317j, 1647, 1847, 1849, 2415, 3083, 4070, 4096, 4156p
Ajuga reptans, 2097
Akebia quinata, 732
Alberta—*see also under* Canada—Dep. Agric., A.R., 1015a
Albizzia spp. as shade trees, 2478, 3080, 3148
Alcohol—
determination, 612
as a fungicide, 808
as a growth substance, 1510
methyl, fruit ripening affected by, 1838
Aldehydes in tea, 1025
Aleurites fordii and *A. montana*—*see* Tung
Algae—
control on leaves, 746
Algae—(*continued*)—
control in ponds and streams, 389k, 2454
on potting media, effects of, 3912
Algeria—
Cons. Rech. agron., A.R., 3201
crops, 392, 3996f
ornamental trees and shrubs in, 753j
Alkaloids—*see also* Nicotine *and certain other individual alkaloids*—
absorption by mistletoe from host, 1624
biosynthesis, 596, 1614, 1672x, 3867, 3868
contents, distribution in graft combinations, 587, 1027, 2748
contents, factors affecting, 597, 600, 1622, 2790, 2792, 2839n, 3816, 3864, 3866
determination, methods of, 600, 649t, 649u, 2780m, 2839k, 3903v
plant sources of—*see also* Medicinal plants *and separate species*—surveys, 1672d, 1672i, 2840j
in various plants, analytical data on, 598, 600, 604, 649t, 1615, 1618, 1621-1625, 1627-1629, 1672f, 1672i, 1672p, 2790, 2795, 2796, 2839w, 3862, 3864
Allium spp.—*see also* Onion, *etc.*—composition, 3197
Allium spp., hybrid, 462
Almond—
× apricot hybrid, 2297
diseases, 288, 2297
flower biology, 4174
growing in various countries, 2301m, 2301s, 3459a
harvesting, 63
ornamental, rootstocks for, 91
× peach hybrid, 2297
pests, insect, 1276, 3562e
pollination, 1003, 2183
products and by-products, general, 3459a
products and by-products, oil, 638
pruning, 148
rootstocks, 91, 4193
soil management, general, 2188
varieties, 219 l, 219z, 1216u
Alnus glutinosa, 664
Alnus spp., root nodules, 1059
Aloe spp., extract, seed treatment with, 1415
Aloe spp., flower colour and pigments, 2914
Alternaria—
brassicae, 1407
dianthi, 3921, 3997b
longipes, 2753, 3842
solani, 402, 406, 518, 522, 1502, 1523, 2700-2702, 3780, 3781, 3783
spp., unspecified, 284, 1486, 2644
zinniae, 3935
Althaea rosea, 2840 l
Altitude, plant development affected by, 2215, 3176g
Aluminium—
foil, horticultural uses, 2929, 3914, 3915
nutrition of plants, 48, 1770, 3218, 3985
toxicity, 3687
Alysicarpus vaginalis, 2482

Alyssum, weed control, 356, 2468
Amaranthus—
caudatus, 2862
spp., seed oil, 2824
spp., as weeds, and their control, 1366, 2496
tricolor, 3918
Amaryllis forcing, 2890
Amaryllis hybridization with other genera, 2944p
Amateur Gardening Annual, 3209
Ambrosia spp., control, 350
Amelanchier spp., winter chilling requirements, 1110
America, Central, cacao growing, 840
Ametastegia glabrata, 1292
Amino acids—*see under* Acids, organic
Ammonia—*see also* Nitrogen—
gaseous, for disease control, 798-800, 3398
injuries to plants, 1554
waste water, as a fertilizer, 466
Amomum spp., cardamoms, 1603
Amorbia essigana, 759
Amorphophallus campanulatus, 1542
Ampelopsis vitifolia, 2839 l
Amphorophora rubi, 1241, 1316u
Amphorophora sonchi, 2596
Anabasine biosynthesis, 3825
Anabasine in plants, 598, 3934
Anacardiaceous plants, dermatitis caused by, 4105
Anacyclus pyrethrum, 1654
Anagallis arvensis, 3589
Anagyrus saccharicola, 1949
Anamirta paniculata, 1611
Anaphe venata, 3175
Anarsia lineatella, 2417
Anastrepha—
ludens, 4045g
mombinpraeoptans, 2413
spp., unspecified, 1884
Andropogon virginicus, 376
Anemone—
diseases, 2046
growing in Great Britain, 753t
growing in Italy, 2945a
planting time, 698
pollination, 1718
research at Rosewarne, 1717
weed control, 2034, 2469
Angelica oils as fruit-fly baits, 1281
Angola, crops, coffee, 4156v
Anisodus luridus, 595
Annals of Agricultural Science, a new periodical, 4196
Annona—
muricata, 1009
senegalensis, 2021, 2839u
squamosa (custard apple), 961a
Annual Reports—*see also* Reports *and* Year-books—
Aalsmeer Res. Stat. Floric., 3905-3907
Adelaide bot. Gdn, 3226n
agric. Res. Coun., U.K., 4171
Alberta Dep. Agric., 1015a
Annual Reports (*continued*)—
Algérie, Cons. Exp. Rech. agron., 3201
Amsterdam, roy. Inst. Tropics, 2058q, 3226 l
Arizona agric. Exp. Stat., 4200a
Arnhem, Inst. appl. biol. Res. in Nature, 2058k
(Booklet) Ass. Grs new Var. Hops, 619
Australia(n)—*see also below*, South—
Canned Fruits Bd, 2058a
C.S.I.R.O., 984
Dried Fruits Control Bd, 2058b
Balsgård Fruit Breed. Inst., 76
Banana Bd Res. Dep., Jamaica, 3028
Bermuda Dir. Agric., 2016, 4168
Boskoop, Tree and Shrub Nursery exp. Stat., 981
British—
Columbia, agric. Statistics, 4200b
Columbia, Dep. Agric., 2017
West Indies centr. Sugar Cane breed. Stat., Barbados, 1932
Brooklyn bot. Gdn, 1015b
California Dep. Agric., 2058c
Cameroons Develop. Corp., 1015c, 4170
Canada, Minist. Agric., 3203
Canada, nat. Res. Coun., 2058d, 3226b
Cawthron Inst., N.Z., 3204
Ceylon—*see also below*, Rubber—
Coconut Res. Inst., 3062
Dir. Agric., Administ., 982
Tea Res. Inst., 1959
Chipping Campden Fruit Veg. Canning Quick Freez. Res. Ass., 3226e
Colonial Pesticides Res. Cttee, 2019
Colonial Products Council, 2021
Comité nat. Étude Cult. fruit., Belgique, 2149
Committee colon. agric. Animal Health For. Res., 2022
Cornell agric. Exp. Stat., 3226c
Cyprus Dep. Agric., 985, 2023
Danish Inst. Weed Res., 1368 l
Danish Seed Testing Stat., 3226o
Ditton Lab. and Covent Garden Lab., Fruit, Veg. and Plant Prod. Div., 1010
Dominica Dep. Agric. For., 4200d
East African Agric. For. Res. Organ., 1015e
East African Tea Res. Inst., 1960, 4142
East Malling Res. Stat., 965, 3207
Edinburgh and East of Scotland Coll. Agric., 3208
Fiji Dep. Agric., 2026
Florida agric. Exp. Stats, 987
Forestry Commiss., Forest Res., 4173
Friesdorf/Bad Godesberg gärtn. Versuch-sanst., 2027
Geisenheim/Rheingau, Bundesanst. Qualitätsforsch. pflanzl. Erzeugn., 4169
Geisenheim/Rheingau, Lehr- u. Forsch-Anst. Wein-, Obst- u. Gartenb., 4174
Gembloux, Stat. Amél. Plantes fruit. maraîch., 4175
Georgia Exp. Stats, 3226f
Ghana Dep. Agric., 988, 4176
Glasshouse Crops Res. Inst., 989, 4177

Annual Reports (*continued*)—
Hawaiian Sugar Planters' Ass. Exp. Stat. Cttee, 1929
Heidelberg, staatl. Lehr- u. Versuchsanst. f. Gartenb., 2028
Hong Kong Dir. Agric., 990, 3226g
hort. Educ. Ass., 4200h
hort. Res., Minist. Agric., The Hague, 986
La Hulpe, Stat. provinc. Rech. sci. Vitic., 1182
Imp. Coll. trop. Agric., Trinidad, 4200i
Indian—
Coffee Bd, 1868
Coun. agric. Res., 3211
Tea Ass., sci. Dep., Tocklai, 1961
Indonesia, C.P.V. Exp. Stats, 2029
Inst. Encouragement Rech. sci. Ind. Agric. (I.R.S.I.A.), Brussels and Gembloux, 993
Inst. nac. Invest. agron., Madrid, 2030
Inst. Rech. Caoutch. Indochine (I.R.C.I.), 1911
Inst. Rech. Huiles Oléag. (I.R.H.O.), Paris, 4178
Iowa Div. Agric. St. Coll. and agric. Exp. Stat., 2032
Ireland, Republic of, Minist. Agric., 4200t
Jamaica Dep. Agric., 1015g, 4180
Jersey, St. exp. Stat., Howard Davis Fm, Trinity, 994, 2034
John Innes hort. Instn, 4181
Jordan agric. Res. Serv., 2035
Kenya Coffee Bd, 4077
Kenya Dep. Agric., 995, 1015h, 4182, 4200k
Kesteren, St. hort. adv. Serv., Holland, 1083
Lausanne, etc., Stats féd. Essais agric., 2036
Long Ashton agric. hort. Res. Stat., 1015j
Luddington exp. Hort. Stat., 1001
Macaulay Inst. Soil. Res., 3226i
Madras agric. Dep., Administ., 996
Mauritius Dep. Agric., 2037, 3213
Mauritius Sugar Ind. Res. Inst., 4125
Michigan agric. Exp. Stat., 998, 4184
Minnesota agric. Exp. Stat., 2058m
Mississippi agric. Exp. Stat., 3214, 4185
Mysore agric. Dep., 1015 l, 1015m
Naaldwijk, Res. Stat. Fruit Veg. Cult. under glass, 1000
(and Guides) nat. Inst. agric. Bot., Cambridge, 534z, 3623, 3796h
nat. Inst. agric. Engng, Wrest Park, 1002, 4186
Nebraska agric. Exp. Stat., 2058n
New South Wales Dep. Agric., 1003
New South Wales Insect Pest Survey, 3226j
New York St. agric. Exp. Stat., 4200n
New Zealand Dep. Agric., Hort. Div., 2040
New Zealand D.S.I.R., 2041
Nigeria—
Federation, Dep. agric. Res., 1004, 2058o, 4187
Northern Region, Dep. Agric., 2058p, 4200o
Western Region, Mktg Bd, 4200p
Annual Reports (*continued*)—
Northern Ireland, Minist. Agric., 999, 2038
Northern Rhodesia Dep. Agric., 4200q
Nottingham Univ. Sch. Agric., 4194
Nyasaland Dep. Agric., 1015o, 4200r
Ontario ent. Soc., 2058f
Opheusden, Tree and Fruit Inst., Holland, 1083
Pea Growing Res. Organ., Yaxley, 1426
Pennsylvania agric. Exp. Stat., 3226k
Pflanzenschutzämter, Brunswick, 4200c
Purdue Univ. agric. Exp. Stat., 4200s
Quebec Minist. Agric., 2044
Queensland Bureau Sugar Exp. Stats, 1930
Queensland Dep. Agric. Stock, 2045
Rhodesia and Nyasaland, Fed. Minist. Agric., 2058g
Rosewarne exp. Hort. Stat., 2046
Rothamsted exp. Stat., 4188
Rubber Res. Inst. Ceylon, 1910
Rubber Res. Inst. Malaya, 4116
Rural Indust. Bur., 4200v
Saanichton Domin. exp. Fm, 1006, 4189
Saharanpur Fruit Res. Stat., 2047
Schaffhausen, Rebversuchsanl., 3459e
Scottish hort. Res. Inst., 1007, 4190
Scottish Plant Breed. Stat., 4200w
Seychelles Dep. Agric., 1008
Shell Serv. for the Fmr, Venezuela, 1009
Sierra Leone Dep. Agric., 2058r, 3226m
Singapore bot Gdns Dep., 1015q
South Australia Minist. Agric., 1015r
Tanganyika—
agric. Corp., 2048
Dep. Agric., 3217
Govt Chem., 1015s, 4192
Sisal Res Stat., Mlingano, 616
Trinidad and Tobago Dep. Agric., Administ., 2049
Tunisie, Serv. bot. agron., 4193
Uganda Dep. Agric., 1011, 3218
United Planters' Ass., S. India, sci. Dep., Tea Sect., 3147
United States Dep. Agric., agric. Exp. Stats, 1015u, 4200z
United States Secretary Agric., 1015t, 4200y
Vegetable Res. Stat., Wellesbourne, nat., 3622
Virginia agric. Exp. Stat., 3220
Wageningen, Centre Plant Physiol. Studies, 3205
Wageningen, Inst. hort. Engng, 992, 4179
Washington agric. Exp. Stats, 1015v
Wattle Res. Inst., Pietermaritzburg, 1666
West African Cocoa Res. Inst., Tafo, 3041
West African Inst. Oil Palm Res., 1898
West of Scotland agric. Coll., 1012, 2058t, 3221
West Canad. Soc. Hort., and Proc. annu. Mtg, 1013
Wilhelminadorp, Exp. Stat. Fruit-growing in the Open, 1084
Wisconsin agric. Exp. Stat., 2058u, 4195, 4201b

Annual Reports (*continued*)—
Wye College, Dep. Hop Res., 618
Zanzibar Dep. Agric., 2054, 2055
Zürich-Oerlikon, eidg. landw. Versuchsanst., 1015w
Annual review—
of entomology, 337y, 3216
of plant physiology, 4172
of microbiology, 2058e
Anodendron spp., glycoside contents, 2839i
Ant(s), harmful and their control, 337h, 788, 1883, 2449d, 3052, 3176i, 3528, 4048
Ant(s), pollination by, 4153
Antennaria elaeophila, 3018
Antestiopsis (*Antestia*) spp., on coffee—*see* Coffee pests
Anthocyanin—*see* Pigments
Anthonomus pomorum, 1306
Anthores leuconotus, 1889, 4077
Anthurium, cultural trials, 2891, 3905, 3906
Anthurium, soilless culture, 2945u, 3937
Antiaropsis spp., glycoside contents, 2839i
Antibes, École d'Horticulture, 2841
Antibes, Stat. Agron. Biochim. vég., work at, 4191
Antibiotics—
from actinomycetes, 2580
adjuvants for, 254
as bactericides, 254, 444, 446, 471, 686, 1585, 2342-2346, 2348, 2350, 2557, 3027s, 3481, 3558, 3561b
from fungi, 253, 289, 535j, 3016
as fungicides, 406, 419, 535j, 540, 628, 663, 895, 1010, 1248, 1301, 1406, 1492, 1689, 1752, 2351, 2378, 2380, 2557, 2757, 2856, 3489, 3558, 4060, 4195
-growth substance mixtures, 2088
growth substances affect production of, 3016
in or from higher plants, 256, 257, 1467, 1785m, 3489
from lichens, 3903m
plants injured or otherwise affected by, 289, 419, 446, 663, 686, 1519
plants uptake and translocation of, 649p, 1406, 2088, 2531
reviews, 973
testing of, 3489, 3558
for virus control, 534 l, 3839
Antirrhinum—see Snapdragon
Anuraphis—
helichrysi—see Brachycaudus
roseus, 1270
tulipae, 2596
Aonidiella aurantii—see also Citrus pests, scale, red—3026q
Aonidomytilis solidaginis, 1757
Aoromius quinquepunctatus, 1452
Apanteles flaviceps, 938
Aphelandra squarrosa, 3913
Aphelenchoides cocophilus, 3069
Aphelenchoides ritzema-bosi, 1687
Aphelenchus avenae, 3679
Aphelinus mali, 2406
Aphids—*see also under scientific names and host plants—*
control by sprays and dusts, 534w, 794, 1009, 1084, 1270, 1271, 1388, 1408, 1453, 2985, 3529, 3531, 3562j, 3789
control by systemic insecticides, 450, 513, 1241, 1270, 1304, 1389, 1647, 1756, 3642
populations, host metabolism affects, 3530
of *Ribes* spp., 2449b
as virus vectors, 1241, 1877, 2051, 2448x, 2595, 2596
Aphis—
craccivora, 3530
fabae, 1304, 1453, 2440, 4188
gossypii, 1389
helichrysi—see Brachycaudus
laburni, 1389
pomi, 327, 1084, 2405, 3530
Apion ulicis, 1368e
Apparatus and instruments—*see also* Irrigation equipment, Machines, Spray equipment *and* Tools, *and well-known types of apparatus under their common names—*
for biosynthesis studies, 3271
for bruising produce, 1596
for controlled environment chambers, etc., 1082f, 2005, 4045g
for controlling day length, 1081o
for controlling soil temperatures, 3282
for counting seeds, 2146o
for determining, measuring or recording—
catechins (densitometer), 4157i
day length, 395
dew deposition, 3231
firmness in fruits and vegetables (firm-o-meter), 1534
growth (auxanometer), 3284
light, 2135, 3283
moisture content of air, 68q
moisture content of copra, 4076
photosynthesis, 68h, 3285w
plant surface wetness, 2449j
plant weight with gamma rays, 4129
rate of sap flow, 3239
soil moisture, 146, 1841i
spray particles and deposits, 1316h
spray residues on leaves, 337o
temperature of air, 395
temperature inside plants, 1598
transpiration, 3285n
water contents of plants, 3285n
for dispensing pollen—*see under* Pollination, artificial
for fumigating soil—*see* Fumigation, soil, methods
for heat treatment of plant material, 2944a, 3138
humidifiers—*see* Humidifiers
light filters, 1082w
for observing root growth, 3284
pouch piercer for sampling sugar cane juice, 1998g
for seed sowing in boxes, 2140
for starting sprinkler irrigation, 2448u
for trapping insects—*see* Insect

Apple—*see also Malus*—
biennial bearing—*see below*, fruiting
blossom—*see below*, flower
breeding and selection—
cytology, 2158
for disease resistance, 3492
general, 2168
for late flowering, 2157
leaf-fruit correlations aid, 1091
of rootstocks, 80
for winter hardiness, 77
climate—
disorders due to abnormal, 2327
fruit quality in relation to, 3471
hail injury, 237
micro-, 2151, 3330
pest incidence affected by, 2401
spring frost injury, 235, 2318, 2448k, 3472
spring frost protection, 235, 1222, 1226, 2448k
temperature responses of—
flower buds, 3325
fruit, 153, 3372
leaves, 2326
shoots, 2173
windbreaks and wind responses, 230, 2326
winter—
chilling requirements, 1110
hardiness—*see also below*, rootstocks, hardy—77, 99, 112, 1111, 1127, 2238g, 2323, 3311, 3332, 3472
injury, 234
composition—*see also below*, nutrition—
flower, 1130
fruit, 43, 144, 153, 1131, 1149, 1152, 2070, 2215, 2216, 2234, 2239f, 2306, 3342, 3372, 3498
leaf, 131, 132, 135, 142, 144, 151, 221, 260, 1061, 1126, 1129, 1140, 1149, 1169h, 2199, 2200, 2306, 2312, 3204, 3338-3340, 3342, 3343, 3363, 3466, 3468, 3555
root, 3461
shoot or branch, 144, 151, 152, 1061, 1169h
whole plant, 3352
diseases—*see also below*, sprays *and* storage—
bacterial, fireblight (*Erwinia amylovora*), 253, 2304, 3561q, 4195
cause uncertain, 2314
control, general, 1218
fungus—
bitter rot (*Glomerella cingulata*)—*see also below*, gloeosporium—3214
black rot (*Physalospora obtusa*), 259
Botryosphaeria ribis, 259, 3494
brown rot (*Sclerotinia* spp.), 259, 266, 2367, 3498
fruit rots, complex, 258
gloeosporium, bitter, target or bull's-eye rot and canker (*Neofabraea perennans* and *Gloeosporium album*)—*see also above*, bitter rot—263, 264, 1246, 2229, 2233, 2365, 2366, 2448g, 3495-3497
leaf spot (*Phyllosticta prunicola*), 337k
Apple—diseases—(*continued*)—
mildew (*Podosphaera leucotricha*), 261, 1084, 2360-2362, 3344, 3491-3493, 3561t, 3637
phytophthora, collar or crown rot (*Phytophthora cactorum*), 265, 2363, 2364, 2449t
Polystictus sp., 131
rust (*Gymnosporangium juniperi-virginianae*), 3488
scab (*Venturia inaequalis*)—
apple host metabolites in relation to, 260
control—
by antibiotics, 3489
economic aspects, 2358, 2359
general, 261, 262, 999, 1084, 1317l, 2229, 2351-2356, 2449k, 2449l, 3483-3487, 3561v
by ground treatment, 2357
by immunizing the tree, 1245
by systemic fungicides, 3488
warnings and spore discharge, 262, 1316q, 2304, 2449j, 3485
silver leaf (*Stereum purpureum*), 131
non-parasitic—
chlorosis—*see also below*, nutrition, iron, etc.—80, 3466
fruit russeting—*see below*, fruit
green blotch, 1226
leaf-fall, premature, 1221
leaf spotting, 2327
resistance, varietal—*see below*, varieties
resistance, wax layer on fruits and leaves affects, 257
virus—
dapple apple, 3476
general, 2329, 2330
leaf pucker, 3203
mosaic, 239, 1233, 2331
ulcerated russeting, 1232
witches' broom or proliferation disease, 337d
economics—
harvesting and packing, 2220, 2221
marketing, 822w
orchard establishment, 2238j
soil variables in relation to, 138
tree shape and size in relation to, 73
field experiments, soil uniformity trials, 3290
flower(ing)—
biology, 118, 2175, 3326, 3400u
bud initiation and differentiation, 3320
numbers, fruit set in relation to, 2206
sprays retard, 1012
thinning by sprays—*see also below*, fruit—1218, 3356
time of, 3325
frost effects—*see above*, climate
fruit(ing)—*see also above*, composition, *and below*, harvesting, packing *and* storage—
biennial, 127, 151, 1169h, 2200, 2211
blemishes, causes of, 1317c
colour, factors affecting, 131, 1169k, 2437, 3338, 3343, 3554

Apple—fruit(ing)—(*continued*)—
drop, factors affecting, 153, 2192, 3372
drop, spraying or dusting to retard, 128, 1146, 1218, 2238e
enzyme activity, 2217, 2218
flavour, varietal characters, 1170h
growth, 144
ice crystal formation in, 2234
-leaf correlations, 1091
maturity, factors affecting, 1218, 2215, 2437, 3330
maturity tests, 3372
parthenocarpy, natural and induced, 3334
photosynthesis, 2219
quality, factors affecting, 327, 328, 2437, 4184
respiration, 1159, 2052, 2219, 3362, 3396
russeting, factors other than sprays causing, 2327
russeting, sprays cause—*see also below*, spray injury—337 l, 1309, 2229, 2318, 2353, 2441, 3486, 3519, 3560, 3561g
set, factors affecting, 118, 326, 2206, 3327
set, physiological aspects, 1149
size, factors affecting, 135, 143, 327, 2192
size, predicting ultimate, 1108
thinning—*see also above*, flower—126, 127, 1108, 1218, 2210-2212, 2238o, 2239m, 3357, 3400e
tissues, culture, 3244
tissues, gamma irradiation softens, 43, 1159, 3395
yeasts on, 3395
yields, 138, 1107, 1169z, 2165, 3289, 3309
growing—*see also below*, research *and* varieties—in—
Australia, 1086
Canada, 3400x
European countries, 1170a, 1170n, 2148
the U.S.S.R., 3292
growth—*see also below*, leaf *and* root—
age and yield in relation to, 1107, 1169z
analysis, 113
crotch angles, 70
effects of nursery environment on, 112
herbicides affect, 2462-2465
intercropping affects, 140
measurement, 2153
phases, juvenile and mature, 117, 2163, 2175, 2238z
of seedlings, factors affecting, 3334
shoot, factors affecting, 1140, 2173, 3320, 3323
shoot, morphology of, 3322
sphaeroblasts, 1169e
studies, 2174, 3289
variability, rootstocks in relation to, 3309
harvesting methods, 160-162, 992, 998, 1170g, 2220, 2238r, 2238s, 2239k, 3373, 3400c, 3400 l
harvesting, time of, 2230, 2231
interstocks, 1101, 2167, 2323, 2364
irrigation—*see below*, soil management

Apple—(*continued*)—
leaf—
ageing, caffeine affects, 3530
area measurement, 2154
area relationships, 118
chlorophyll, light affects, 3363
-fruit correlations, 1091
growth, factors affecting, 2326
growth, sprays' effectiveness in relation to, 262
shape, variations in, 2172
stomatal behaviour, 3466
marketing—*see also below*, packing—822w
mulching—*see below*, soil management
mutations, 181a, 2158
mycorrhiza, 119, 253, 2146u
nutrition—*see also above*, composition—
absorption of nutrients through bark, 3269
boron, 221, 2306, 3342
calcium, 132, 221, 2093, 2196, 2197, 3312
foliar—*see also below*, nutrition, nitrogen—135, 170, 1084, 1218, 1219, 2093, 3269, 3342
iron, 132, 1084, 3350, 3465, 3470
magnesium, 132, 1084, 1131, 1219, 2196, 2197, 2310, 3350, 3468-3470
manuring, general, 131, 2023, 3337
nitrogen, general, 132, 134, 144, 1084, 1126-1128, 2023, 2195-2197, 3338, 3343, 3350
nitrogen sprays, urea, 136, 142, 170, 1127, 1129, 3344
phosphorus, 132, 139, 142, 1130, 2068, 2197, 3312
potassium, 131, 132, 139, 142, 221, 1131, 2196, 2197, 2312, 2327, 3338, 3343
rootstock affects, 3312
salt tolerance, 3467
storage quality affected by, 134, 3350
zinc, 226
packing—
containers, 1155, 1157, 1169g, 2226, 3285q, 3374-3376, 3390
economics, 2220, 2221
grading, 180t, 2220
pests—*see also below*, sprays—
aphid, green (*Aphis pomi*), 327, 1084, 1271, 2405, 3530
aphids, various (*Rhopalosiphum* and *Sappaphis* spp.)—*see also below*, woolly—1270, 1271, 2401, 2407
birds, 2435
blossom weevil (*Anthonomus pomorum*), 1306
borers (*Xyleborus* spp., etc.), 2929, 3494
capsids (*Plesiocoris* and *Lygus* spp.), 337u
cicadas (*Magicicada septendecim*), 1279, 2412
codling moth (*Enarmonia pomonella*)—*see also* Codling moth—309, 327, 1285, 1286, 1317k, 2148, 2422-2424, 2443, 2448y, 2448z, 3518
control, general, 1218

Apricot—diseases—fungus—(*continued*)—
rust (*Tranzschelia pruni-spinosae*), 3504
scab or freckle (*Fusicladium carpophilum*), 1251
shot-hole or coryneum blight (*Clasterosporium carpophilum*), 1251
non-parasitic, 1003
virus, 1234
flower biology, 4174
flower bud initiation and development, 1133
fruit—
composition—*see above*, composition
flesh : stone ratio, 3367
growth substance responses, 129, 1143, 2045
maturity, biochemistry of, 1169s
maturity, irrigation affects, 145
growing in Italy, 3293
growing in New Zealand, 1087
growth, gibberellin affects, 1113
interstocks, 3401b
mutations, 87
nutrition—
major elements, 1132, 1133
minor elements, 3463
salt injury and tolerance, 3467
pests, insects, 338e, 1295
physiology, chloroplast agglutination, 2180
plum shoot emerging from, 115
pollen viability, 2183
processing, drying, 2237
products and by-products, 1169s
pruning and training, 3503
as a rootstock for peach, 103
rootstocks, 86, 2239a, 3401b
soil management, general, 2188
soil management, irrigation, 145, 2191
varieties—
Mantoy, 78
in North America, 180f, 2160, 3400b
in various European countries, 87, 1092
Aquatic plants, ornamental, a book on, 4164
Arabidopsis spp., growth substance responses, 2074
Arabis alpina, 668
Araecerus fasciculatus, 864, 1997w
Arctic, crops, small fruits, 3406
Arctic, plants, edible, 3229
Arctium lappa, 1469
Areca palm—
diseases, yellow leaf, 3177i
growing in India, 3178i
nut husks, utilization of, 3172
pests, 3171, 3177i, 3178g
pollination, 1842
a review on, 960n
seed germination, 1990
seed selection, 959a
Areopanax reticulata, 2849
Argentina, crops—
fruit, 181d, 220c
medicinal plants, 1616
vegetables, 3796b
Argyreşthia spp., unspecified, 1762
Argyrotaenia—
citrana, 759
mariana, 2423
velutinana, 308, 1284, 1299, 2443, 2448r
Aristolochia clematitis, 2072
Arizona agric. Exp. Stat., A.R., 4200a
Armillaria mellea, 822m, 1182, 3026j, 4142, 4147
Arnhem, Inst. appl. biol. Res. in Nature, A.R., 2058k
Aromius quinquepunctatus, 1452
Arrhenatherum elatius, 389i
Arsenic sprays—*see under* Citrus fruit maturity, sprays affect, *and under* Insecticides
Artemisia absinthium, 68j
Artemisia maritima, 2789
Artichoke—
globe—
composition, 12
growing in various countries, 535o, 2537-2539, 2716o
nectar secretion, 2537
nutrition, 2540, 2541
pests, 1392, 2538, 2542
Jerusalem—
breeding and selection, 3795y
diseases, 2716q
transpiration, 3286b
varieties, 2716q, 3623
Arum italicum, 1786g
Arundo donax, 3742
Asclepias spp., gibberellin responses, 2850
Asclepias spp., oil-seed crops, 3897
Ascochyta pisi, 1447, 2593
Ascorbic acid—*see* Vitamin C *and individual plants under* composition
Aseptic culture of higher plants—*see also* Seed embryo culture *and* Tissue culture—1878
Ash (*Fraxinus*)—*see Fraxinus*
Ashing plant materials, 1061
Asia, South-East, cacao growing, 840
Asimina triloba, 3025
Asparagus—
blanching with black plastic, 2544
breeding and selection, 412, 1393
climate, temperature responses, 2545
diseases, fungus, *Fusarium* spp., 2547
diseases, fungus, rust (*Puccinia asparagi*), 3645
fibre development, 2718g
growing in various countries, 535n, 2543, 3796r
growth substance responses, 1396
harvesting, forecasting date of, 2545
harvesting methods, 1390, 1395, 2546
herbicide responses, 3607
pests, 2548
plumosus, 389g, 2841, 3595, 3905, 3906, 3916
pollination, 1394
seed production, 1394
soil management, mulching, 2544
soil management, weed control, 342, 343, 389g, 1358, 1359, 2489, 2492-2494, 3568, 3606, 3607, 3610, 3621b

Asparagus—(*continued*)—
sprengeri, 3919
storage, 1396
tetraploidy induced, 1393
varieties, 2017
Aspergillus niger, 2911, 3701
Aspidiotus—
destructor, 3037
forbesi, 2403
perniciosus—*see* San José scale
Aspidosperma spp., alkaloids from, 1627
Aster—
diseases, 30, 753r, 1689, 3905
growth substance responses, 30
nutrition, 1688
varieties, 4195
weed control, 1012, 2468
Atmospheric pollution—*see* Air
Atomic—
energy in agriculture and horticulture, 964, 3191, 3267
energy, Proc. int. Conf. peaceful Uses of, 4166
fission products, uptake by plants, 2717k
Atropa belladonna, 1614, 2790
Atta spp., leaf-cutting ants, 4048
Aubrietia varieties, 2944q
Australia(n)—*see also individual States*—
crops—
deciduous fruits, 180p, 1086
small fruits, 2301z, 3458d, 3459b
tropical and subtropical fruit and plantation, 1548, 4183
various, 2840b
vegetables, 1545m, 1545x
C.S.I.R.O., A.R., 984
Dried Fruits Control Bd, A.R., 2058b
Autoradiographic techniques—*see* Radioactive isotopes
Avena fatua and other wild oat species, control of, 1346, 1426, 3577, 3578
Avocado—
breeding and selection, 3026i
climate, disorders attributed to, 758
composition, fruit, 3026w
composition, leaf, 1788, 1789
diseases—
cause uncertain, azteca, 4001
fungus, root rot (*Armillaria mellea*), 822m
fungus, root rot (*Phytophthora cinnamomi*), 822n, 823g, 823h, 1841k, 2951, 2952
non-parasitic, chlorosis, lime-induced, 757
non-parasitic, leaf spot, 758
virus, sun blotch, 4000
flower behaviour, 1841a, 3026a
fruit metabolism, 822c, 822d, 822f, 822k, 823c, 3027n
growing in various countries, 3027u
nutrition—*see also above*, composition—
foliar, 2950
manuring and major elements, 1788, 1789, 2951
Avocado—nutrition—(*continued*)—
minor elements, 757, 1788, 1789, 2949-2951, 3999
pests—
fruit flies, 2953
Fuller's rose beetle (*Pantomorus godmani*), 760
mites, 2953
in the U.S.A., 759
propagation—
by budding and grafting, 2948
by cuttings, 755, 2948
by top-working, 2948
rootstocks, seedling, 3998
seed germination, 2948
seed treatment, 822n
soil management, mulching, 756
soil management, weed control, 362, 2511g
varieties, 1840k, 1841a, 3027 l, 3998
Azadirachta indica, 1611
Azalea—*see also* Rhododendron—
a book on, 4160
diseases, 3994
flower bud initiation, 3993
flower forcing, 1716, 3214, 3905, 3906
growth substance responses, 2851, 2852
growing in the U.S.A., 753n
hybrids, dwarf, 1778
leaf drop, 2943
light responses, 2943, 3991, 3993
nutrition, manuring and major elements, 754c, 1780, 1781, 3913
nutrition, minor elements, 734, 1780
propagation by cuttings, 726, 733, 1779, 2934, 3970, 3991
shoot anatomy, 3993
soil management, weed control, 1341, 2471
soil pH responses, 735
storage of plants, 2943
temperature responses, 3993
varieties, 1778, 1779, 4174
Azotobacter, inoculations with, 1386

Babassu (*Orbignya* spp.), oil and by-products, 637, 640
Bacillus mycoides, 2886
Bacillus thuringiensis, 526, 1290
Bacteria(l)—
for bacterial disease control, 3561q
diseases—
immunity studies, 1999m
mycorrhiza protects against, 253
nutrition affects, 3482
thrips transmit, 445
fertilizers, 1386
for pest control, 526
toxicity to fungi, 3786
Bactericides—*see also* Antibiotics *and under* Fungicides—bacterol, 2554
Bacterium sp., inhibitory to *Erwinia*, 3561q
Bacterium tumefaciens—*see* Crown gall
Baldingera arundinacea, 2467
Balsam, gibberellin responses, 2850

Balsgård Fruit Breed. Inst., A.R., 76
Bamboo—*see also individual species*—
climate, winter hardiness, 1672n
growing in the U.S.A., 1669
pests, 1673n
utilization, 649k
Bambusa spp., edible, 1668
Banana—*see also Musa*—
Board Res. Dep., Jamaica, A.R., 3028
composition, fruit, 837, 838, 1843, 1998q, 3038, 3178j
composition, leaf, 1845
diseases—
bacterial, moko (*Pseudomonas solanacearum*), 2049, 3035
fungus—
anthracnose (*Gloeosporium musarum*), 1846, 4060
fruit and bunch rots (several organisms), 836
leaf spot or sigatoka (*Cercospora musae* (*Mycosphaerella musicola*)), 832-834, 1847-1850, 2026, 2045, 2049, 3029-3033, 4054, 4156p, 4170
panama disease (*Fusarium oxysporum* var. *cubense*), 1851, 3034, 4055, 4056
nematode incited, blackhead toppling, 1854
virus, 1997e
fruit—*see also above*, composition, *and below*, products, storage *and* transport—
bunches, propping, 831
maturation, enzyme activity during, 838
maturation, regulating the time of, 4052
growing in various countries, 3177k
growth phases, 4051
growth substance responses, 825
herbicides to destroy, 959h
leaf shape, growth phase in relation to, 4051
mutations, 828
nutrition, manuring and major elements, 830, 1845 4049, 4170
nutrition, minor elements, 1845
pests—
aphid (*Pentalonia nigronervosa*), 3529
borer (*Cosmopolites sordidus*), 1011, 1852, 1853, 2049, 3036, 4058, 4059
borer (*Temnoschoita nigroplagiata*), 1853
Ceramidia viridis, 835
nematodes, 1854, 4056, 4057
scale insects (*Aspidiotus destructor*), 3037
physiology, water relations, 4050
planting, land preparation, 1997q
planting, methods and spacing, 959g, 1003, 3211
production and trade, 3176k
products and by-products, dried fruit, 839
propagation by suckers, 4170
pruning, 4052, 4053
research in—
Australia, 2045, 2150
the Belgian Congo, 3212
India, 996
Jamaica, 4180
Banana—research in—(*continued*)—
Uganda, 3218
soil—
management—
cover crops, 4049
flood fallowing, 3034
weed control, 1350, 2477, 2511b, 3599
survey, 959e
spray injury, 3031, 4054, 4170
spray residues, 1316i
storage disorders, 836, 1846
storage, gas, 837
transport, 163, 836
varieties and species, 71, 828, 1840k, 3177b, 3211
Barbarea verna, 2643
Barium, radioactive, 3312
Barium in soils and plants, 2121
Bark analysis, leaf analysis compared with, 4120
Bark composition, seasonal changes, 3235
Basil—*see under* Camphor basil
Bassia longifolia, 958
Batrachedra spp., unspecified, 3109
Bats, fruit eating, 959n
Bayberry (*Myrica* spp.), control, 1336
Bayberry (*Myrica* spp.), wax-bearing, 3904d
Bay-laurel (*Laurus nobilis*), 2800
Beans—*see* Beans (*Phaseolus*), Beans (*Vicia*), Cover crops, *and individual species*
Beans (*Phaseolus*)—
breeding and selection, 431, 535t
climate, wind protection, 534e
composition—*see also below*, nutrition—
leaf, 12, 1081t, 2588-2590
plant, 1018, 1048, 1451, 3271
pod and seed, 12, 1431, 3634, 3795f
diseases—
bacterial—
common blight (*Xanthomonas phaseoli*), 446
halo blight (*Pseudomonas phaseolicola* or *syringae*), 443, 444, 2557
pod twist (*Pseudomonas* sp.), 445
fungus—
angular leaf spot (*Isariopsis griseola*), 3690
anthracnose (*Colletotrichum*, *Elsinoë* or *Glomerella* spp.), 1446, 1448, 2593
damping-off and root rots (various organisms), 1445
powdery mildew (*Erysiphe polygoni*), 448, 1449
rust (*Uromyces* spp.), 402, 406, 448, 535b, 1005, 3688
Sclerotinia spp., 256
virus, 1545g, 2051, 2596, 3688
growing under plastic, 399
growing in various countries, 1545d, 1545m
growth, chemicals affect, 446, 1370, 3692
growth-substance responses, 28, 1047, 1048, 1051, 1370, 1442, 1443, 2084, 2089, 2090, 2094, 2108, 2109, 2111, 2451, 2520-2522, 2524, 2590, 2592, 3249, 3683, 3927

Beans (*Phaseolus*)—(*continued*)—
growth-substances in, 28
harvesting—
frequency of, 452
labour efficiency in, 992
mechanical, 1390, 1456, 2599
herbicide responses, 382, 2451, 2452, 2498, 2499, 3568, 3621j
leaf—*see also below*, physiology—morphology, 35
mutations, 535t
nutrition—
boron, 535m, 2128, 2717i, 3257, 3258, 3634, 3686
calcium, 439, 535m, 3214, 3312
carbon dioxide, 3240
cation uptake, 3263
copper, 2588
fertilizer placement, 3686
foliar, 440, 2121, 2123, 3269
iron, 439, 440, 535m
magnesium, 2588, 3632
manganese, 439, 440, 535m, 2588, 3634
manuring, general, 443, 1375, 3632
molybdenum, 535m
nitrogen, 506, 2588, 2589, 3271
phosphorus, 35, 2123, 2589, 3269, 3684, 3686
potassium, 35, 1513, 2588, 2589, 2717s, 3405, 3684, 3686, 3796q
rubidium, 35
salt tolerance, 3629
sulphur, 15, 442, 1081t
various radioactive elements, 2121
zinc, 2588
pests—
beetles and weevils (various spp.), 407, 2598, 3795j
fly (*Agromyza phaseoli*), 2020
general, 409
greenhouse whitefly (*Trialeurodes vaporariorum*), 451
leafhoppers (*Circulifer* or *Empoasca* spp.), 451, 3795j
mites, 450, 451, 1450, 2440, 3694
nematodes, 1449, 2533
seed flies or maggots (*Delia cilicrura*), 2597
thrips, 445, 451
physiology—
absorption and translocation, 1022, 1031, 1058, 2072, 2088, 2121, 2123, 2451, 2531
autoradiography, 1019, 2072
carbon dioxide metabolism, 1058
chlorophyll formation, 1081q
enzyme activity, 1442, 3286c
of leaf abscission, 2084
metabolism, 1019, 1082i
nutrient leaching from leaves, 3269
photoperiodic and other light responses, 15, 23, 434, 2108, 3236, 3242
photosynthesis, 13, 1082y
protein metabolism, 1019
radioactive responses, 1039, 3271
respiration, 1082y, 1442
Beans (*Phaseolus*)—physiology (*continued*)—
temperature responses, 434
vitamin responses, 2129
water relations, 3236
planting, spacing, 4195
pod flavour, tests for, 2534
pod quality and maturity, 432, 452
processing, 391, 432, 452
research in the U.S.A., 2052
root(s)—
absorption and secretion, 1031
cell growth, 2094
growth, 3258
nodule formation, 2592
seed—*see also above*, composition—
germination, 1047, 1048, 1081n, 1434, 2117, 3692
quality, 2518
sorting by machine, 3682
sowing rates and spacing, 1436
sowing, time of, 2046
storage, 3624
treatment, 444, 449, 450, 1047, 1048, 1384, 1445, 2020, 2517, 2593, 2597, 3268, 3691, 3693
weight variability, 2518
soil—
management—
fumigation, 2533
irrigation, 1380
mulching, 2530
salinity, 3629
weed control, 342, 382, 383, 407, 1359, 1361, 2489, 2491, 2492, 2498, 2499, 2505, 3214, 3567, 3568, 3605, 3606, 3613
soilless culture, 1374
spray(s)—
flavour affected by, 2534
and other chemical injuries, 2117, 3250
residues, 3643
varieties, 390-392, 535q, 535u, 998, 1428, 1446, 1449, 2033, 2045, 2718n, 3623, 3681, 3686
Beans (*Vicia*)—*see also Vicia*—
climate—*see also below*, physiology—temperature sums for, 2585
composition, 1427, 2716a, 2717b, 3237
diseases, fungus and bacterial, 447, 2594, 2718a
diseases, virus, 2596
flower initiation and development, 49, 2582, 2585
growing in Japan, 2585
growth, factors affecting, 49, 2582, 2583
nutrition—
fertilizer placement, 3685
major elements, 2718a, 3685
minor elements, 49
pests, aphids, 450, 1389, 1453, 3530, 3642
pests, beetles and weevils, 450, 1453
physiology—
enzyme activity, 1545q, 3237
light responses, 2584
respiration, 1082y

Beans (*Vicia*)—physiology—(*continued*)—
temperature responses, 2582, 2583, 2585
water relations, 3237
pod development, factors affecting, 2583
processing, 391, 1427
seed—
germination, 1081n, 2584
sowing, time of, 2046, 2585
treatment, 450
soilless culture, 1374
varieties, 390, 1427
Beaumontia spp., glycoside contents, 2839i
Bee(s)—
damage to flowers and fruits, 607
flower composition affected by, 3174
fungicides in relation to, 1310
insecticides in relation to, 1277, 3557
plants, a calendar of, 2061
pollination by, 1394, 1806, 2184-2186, 2238v, 2301j, 2519, 3006, 3007, 3174, 3664, 3665, 4043, 4104
Beet(root)—
breeding and selection, 1471
composition, leaf, 1474, 2624
composition, root, 1474, 3622, 3796k
diseases, fungus, 2053
diseases, virus, 534w
flowering, growth substances induce, 400
harvesting, 1390
nutrition—
foliar, 2624
manuring and major elements, 1375, 3631, 3707
minor elements, 2624, 3633, 4195
sodium and salt tolerance, 3629, 3707
pests, insects, 534w
pests, nematodes, 408
physiology, temperature responses, 1473, 1474
seed germination, 3625
seed rates and spacing, 1472
soil management, weed control, 382, 1358, 2489, 2505, 2506, 3567, 3578, 3604
soil pH requirements, 2624
spray residues, 3643
varieties, 1470, 2718j, 3623
Begonia—
calcium oxalate crystals in, 3264
diseases, 3996o
flower drop, 2028
forcing, 1719
light and temperature responses, 660, 1719, 1720, 1786i
nutrition, 1682, 2082, 3264
propagation by cuttings, 660, 2849
research in Holland, 3905
varieties, 4174
Belgian Congo—
crops, rubber, 1912, 4156x
crops, various, 2817
flora, 4200u
I.N.E.A.C., A.R., 3212
Belgium—
Comité nat. Étude Cult. fruit, A.R., 2149
Belgium—(*continued*)—
crops, willows, 1670
flora, 1015i, 4200 l
horticultural research, 993
Stat. Amél. Plantes fruit. maraîch., 4175
Bellis perennis, 667
Bemisia tabaci, 1580, 2478
Benincasa sp. as a vegetable, 534j
Berberis—
lycium, 3407
× *Mahonia* hybrids, 2945s
spp., fruit composition, 158, 2242
Bermuda Dir. Agric., A.R., 2016, 4168
Bermuda grass—*see Cynodon* spp.
Betula spp., propagation, vegetative, 1676
Bibliographies on—
biological control, 2448p
cacao, 4061
gibberellic acid, 2147b
plant biochemistry, 2058h
radioactive nutrient uptake, 1082t
Zizyphus jujuba, 960q
Bicarbonate, organic acid metabolism affected by, 564
Bidens connata, 350
Biennial or irregular bearing in fruit and nut trees—*see also* Apple fruiting—769, 1169j, 3090, 4192
Bignonia grandiflora, 1035
Bindweed control, 349, 1332
Biochemistry, bibliography on, 2058h
Biological control—*see* Disease *and* Pest control *and* Weed control methods
Biological data, handbook on, 2013
Birch—*see also Betula*—pests, 1756, 3975
Birds—
beneficial, pest control by, 2421
harmful—
control—
by plastic covers, 1206
general, 1316y
by poisoning, 960a, 1316e
by repellents, 1426
by scarers, 815
by trapping, 2448b
by wires, 2535
damage to crops, 1316y, 2435
poisoning by insecticides, 2436
Bituminous rock as a fertilizer additive, 2130
Biuret injury to plants, 4088
Blackberry—*see also* Boysenberry—
composition, fruit, 2240
diseases, 272
flower bud development, 187
nutrition, 3405
planting, spacing, 3405
propagation, vegetative, 1097
soil management, general, 2188
soil management, weed control, 347
stakes for, 4179
varieties, 1172
Black-currant—*see also Ribes*—
breeding and selection, 3207
climate, spring frost protection, 2448k

Black-currant—(*continued*)—
climate, winter chilling requirements, 1110
composition, fruit, 183, 273, 1177, 1216f, 2240, 3409
composition, seed, 2243
diseases, fungus, 273, 274, 2448c
flower development, 3408
fruit—
drop, 183, 3410
growth substances in, 2243
set, growth substances affect, 2245
yields, calculation of, 182
growing in various countries, 219e, 2301z, 3406
growth—
fasciation, 3411
gravity affects, 3320
growth substance responses, 2521
nutrition, 3408
origin, 219b
pests, insects, 2038, 2402, 2416, 2449b
pests, mites, 299, 1001, 1084, 2399
pollination, 2244, 3410
processing, 2302e
pruning, 184
research in various countries, 4174
root systems, 1176, 3243
soil management, mulching, 1176
soil management, weed control, 347, 349, 2466
spray injuries, 1084, 2399
varieties, 220d, 2302e, 3402
Blapstinus spp., control, 2548
Blissus insularis, 3961
Blueberry—
climate, light responses, 3203
composition, 2070, 2249, 3340, 3413, 3414
diseases—
fungus, 2374, 3506, 3507, 3561n
general, 2053
virus, 3477
flower development, 1173
fruit size, 1173, 2249
growing in the U.S.A., 219i, 219o
nutrition, 2125, 2249, 3412, 3413
pests, insects, 2051, 2415
propagation, vegetative, 2247
pruning, 2248
root systems, 2246
soil management, general, 2188
soil management, weed control, 1336, 2465, 3564
storage, 1174, 2250, 2301q
trials, plot size, 3458k
varieties, 219i, 219j, 219k, 2301q
Bog whortleberry (*Vaccinium uliginosum*), fruit composition, 2251
Bolting—*see also* Temperature responses—in vegetables, 1471, 2617, 2648
Book reviews—*see* Reviews
Boron—
application, foliar, 222, 2286, 2307, 3342, 3438, 3440, 3718
application with insecticides, 3203
Boron—(*continued*)—
content—
of glass wool, 2128
of leaves and fruits compared, 2306
of plants, factors affecting, 1375
cut flowers' life affected by, 2859, 2860
deficiency, plant composition related to, 3256
determination, 2306, 3233
interrelationships with other elements, 221, 1378, 1788, 2693, 2731, 4011
nutrition of crops—
fruit and nut trees, deciduous, 221, 222, 1135, 2306, 2307, 3256, 3342
fruit and plantation crops, evergreen, 616, 1788, 1977, 4192
ornamentals, 1688, 2861, 2864, 2866, 2884
small fruits, 1135, 2286, 2308, 3440
tobacco, 2731, 2737
vegetables, 49, 499, 501, 502, 535m, 1397, 1521, 1546 l, 2128, 2633, 2642, 2672, 2693, 2717i, 3203, 3256, 3257, 3633, 3634, 3718, 3721, 3775, 3796e, 3796v
wattle, 1667
physiological role in plants, 49
pollen germination affected by, 3259
root development affected by, 3258
seed treatment with, 2126, 2672
sources, 3721
tolerance and toxicity, 1082a, 1135, 1688, 2308, 2529, 2717i, 3633, 3775
translocation in plants, 1022
vitamin content affected by, 3634
Boskoop Tree and Shrub Nursery exp. Stat., Yearb. and A.R., 981
Botanic(al) garden—
Adelaide, A.R., 3226n
Blanes, Spain, 3996n
Brooklyn, A. R., 1015b
Kiev University, 1016
Lalbagh, Bangalore, 2944n
Singapore, A.R., 1015q
Turkmen, 1081c
Botanical nomenclature, 2146r
Botryodiplodia phaseoli, 2449q
Botryosphaeria ribis, 259, 3494
Botrytis—
cinerea, 276-278, 284, 304, 512, 701, 1010, 1475, 1492, 1712, 2038, 2378, 2662, 2856, 2945i, 3509, 3514, 3562d, 3655, 3731, 3785, 3908, 3921, 3939, 3942, 3979, 3996o, 4190
fabae, 447, 2594, 2718a
spp., various and unspecified, 464, 691, 2923, 2945h
Bouché-Thomas method of growing fruit trees, 1169c
Bougainvillea, seed setting, 1763
Bougainvillea, variegated, stomatal transpiration of, 661
Boxwood—
herbicide injury, 1322
nutrition, foliar, 45
pests, 3975
Boysenberry—*see also* Blackberry—mulching, 53

Brachycaudus helichrysi, 3531, 3562j
Bracken (*Pteridium aquilinum*) control, 1012, 2459, 3580
Braeobia—see Bryobia
Brassica(s)—*see also* Crucifers *and individual crops*—
composition, nutritional value, 3646
diseases, various, 3637, 3654
hirta, 3617
nutrition, manuring, 1516
pekinensis, 1385, 1389
weed control, 380, 1363
Brazil—
crops—
oil, 637
plantation, 959y, 3177g, 4156w
vegetables, 534n
Breadfruit composition, 1843
Breadfruit growing in various countries, 955, 4046
Breeding, plant—*see also individual crops under* breeding—in Italy, 2058 l
Breeding, plant, X-rays aid, 41, 681
Bremia lactucae, 2718k
Brevicoryne brassicae, 1408, 2717y, 3642
Brevipalpus inornatus, 3907
Brevipalpus lewisi, 792, 1817, 2988, 4028
British—
Columbia agric. Statistics, A.R., 4200b
Columbia Dep. Agric., A.R., 2017
West Indies centr. Sugar Cane Breed. Stat., Barbados, A.R., 1932
West Indies, crops, tomatoes, 2716i
Broccoli—*see also* Cauliflower—
diseases, 417, 419, 2053, 2557
nutrition, 417, 1397
packing, 1010
pests, birds, 2535
planting, 1397
soil management, weed control, 2090, 2490
varieties, 390, 1546t
Bromeliads, diseases, 1786k
Bromus spp., control, 357, 3589
Brooklyn bot. Gdn, A.R., 1015b
Brown rot diseases—*see Sclerotinia and host plants*
Broomrape—*see Orobanche*
Bruchus—
obtectus—see Acanthoscelides
pisorum, 1454
rufimanus, 1453
Brussels sprouts—
composition, 2549
diseases, 1405
economics, 393
growth substance responses, 1368i
nutrition, 2128
pests, 1408, 2535
physiology, 534f
planting, spacing, 2550
pollination, 2551
propagation by cuttings, 1400
varieties, 390, 999, 2038, 2550, 2718j, 3623
Bryobia arborea, 2396
Bryobia praetiosa, 3523
Bryophyllum spp., growth substance responses, 1044, 1045, 2915
Bryophyllum spp., physiology, 1044, 1786j, 1786p
Bud(s)—*see also* Flower—dormant, developmental anatomy, 3996v
Budding—*see also* Budwood, Grafting, *and separate plants under* propagation—
flap patch, 960x
shield without wood, 108
wraps for, 1003
Buddleia spp., photoperiodic responses, 2927
Budwood, packing and despatch, 960y
Budwood, storage, 2948
Bulb(s)—*see also individual plants*—
diseases, 2053
forcing, 1786r, 3997g
growing in various countries, 2841
hot water treatment, 699, 2944a
planting, machines for, 2944a
production and trade, 3936
research in various countries, 1714
shipment to opposite hemisphere, temperature treatment, 3997g
soil covering in winter, 2027
soil management, weed control, 1320, 2016, 3405
storage, 3948
Bulbil formation on leaves, 2944y
Bulgaria—
crops, vegetables, 1381
medicinal plants, 2839a
rose growing and rose oil production, 753d, 753z
Bumelia obtusifolia, 1998o
Bush fruits—*see* Small fruits
Butyrospermum parkii, 1996, 2832, 2833
Buxus—see Boxwood
Byturus tomentosus, 304

Cabbage—*see also* Brassicas—
bolting, 3214
Chinese, 1399, 2556, 2717p, 3647, 3648
climate—
air pollution, 3232
frost resistance, 1030
temperature responses, 1473, 1474, 3214, 3769
composition, 12, 1391, 1399, 1402, 1413, 1474, 2549, 2552, 3214, 3634, 3655
diseases—
bacterial, 1402, 2554
fungus, 405, 1404, 1406, 2555, 2556, 2558, 2639, 3208, 3655
non-parasitic, 416
virus, 1403
economics, 393
flowering, growth substances induce, 400
growing in Great Britain, 3796f
growth—
colchicine and vitamins affect, 3648
growth substances affect, 400, 1399, 2717j, 3628

Cabbage—growth—(*continued*)—
head formation, 1399
herbicides affect, 384
root, 2131
nutrition—
bacterial fertilizers, 1386
foliar, 3769
manuring and major elements, 413, 990, 1375, 1379, 1397, 2552, 3214, 3651, 3769
minor elements, 416, 3214, 3634, 3769
pests—
aphids (mainly *Brevicoryne brassicae*), 1408, 2717y, 3642
birds, 2535
butterfly or worm (*Pieris* spp.), 1546s, 2718d, 3642, 3657
cross-striped cabbageworm (*Evergestis rimosalis*), 3657
diamond back moth (*Plutella maculipennis*), 2560
fly (root) (*Erioischia* spp.), 1409, 1545k, 2038, 2046, 2304, 2717 l
general, 3795p
looper (*Trichoplusia ni*), 2559, 2718d, 3656, 3657
swede midge (*Contarinia nasturtii*), 2046
thrips, 1411
physiology and metabolism, 534f, 1030, 1082i, 1410, 2071, 2147e, 2126
pigments of red, 2147e
planting, 413, 4179
processing, 1413
propagation by cuttings, 1400
seed—
sowing date, 2717p
storage, 3624
treatments, 1384, 1385, 2047, 2126, 2554, 3268
seedlings, raising of, 1398, 2514, 3649
soil management—
irrigation, 413
rotations, 414, 3700
weed control, 380, 382, 397, 1358, 1362, 2090, 2489, 2490, 2495, 2556, 3405, 3564, 3568, 3604
soilless culture, 1374
spray residues, 3643, 3658, 3796w
storage, 1391, 1412
varieties, 390, 2035, 2716b, 2716z, 3623
Cacao—*see also* Cocoa—
bean(s)—*see also below*, seed—
cold storage before fermentation, 859
composition, 1860, 1862, 1863, 3039, 3057, 3061, 3178a, 4067, 4068, 4156m
drying, 862, 863, 3039, 4067
enzymic browning, 1862
fermentation—
chemical changes during, 860, 861
at controlled temperatures, 4066
normal scale, 862, 1859, 1861, 1863, 3055, 3056, 3060, 4068
small scale, 3057-3059
a symposium on, 1860
flavour components, 3061
Cacao—bean(s)—(*continued*)—
pests, 864
pigments, 1863
quality, 861, 3059, 3061, 4067, 4157g
white spots on, 4068
bibliographies on, 4061
breeding and selection, 841, 842, 858, 1004, 3039, 3042, 4157q
climate, rainfall, 846
clones, 1998d
diseases—
fungus—
black pod (*Phytophthora palmivora*), 854, 1004, 1857, 2019, 3039, 3048-3051, 4170
blue rot (*Ceratostomella fimbriata*), 856
die-back of seedlings (*Phytophthora parasitica*?), 1858
monilia pod rot (*Monilia roreri*), 855, 4065
witches' broom (*Marasmius perniciosus*), 857, 858, 3042
general, 960m
non-parasitic, chlorosis, 1856
virus, swollen shoot, 851, 960j, 4064
virus, vectors, 852, 853, 3052
estate management, 4156r
fruit—
growth substances in, 849
set and drop, 3048
yields, factors affecting, 846
growing—*see also below*, research—
in Central America and the West Indies, 840
in the Far East and South Pacific, 840, 959 l, 3039, 3176v
in West Africa, 840
growth, growth substance responses, 850
leaf composition, 847, 851
leaf symptoms of mineral deficiencies, 959r
nutrition—
leaf analysis as a guide to, 847
manuring and major elements, 959w, 3039, 4063
minor elements, 959r, 4063
shading affects, 960d
pests—*see also above*, bean—
ants, 3052
bark beetles (*Platypus* and *Xyleborus* spp.), 856
capsids (various spp.), 3052, 3053
general, 3039
mealy bugs—*see also above*, diseases, virus vectors—4156 l
Monalonion dissimulatum, 1009
rose beetle (*Adoretus versutus*), 2026
physiology, enzyme activity, 861
physiology, nutrient uptake by roots, 848
planting, preparation of land for, 959b
planting, spacing, 3046
pod—*see above*, fruit
pollination, 1855, 3039
production and trade, 961d, 1999q, 3039, 3040, 4157n

Cacao—(*continued*)—
products, cacao butter, 1611
propagation by budding, 4062
propagation by cuttings, 843-845, 3039, 3043-3045
research—
in Central America and the West Indies, 2049, 4180
in the Far East, 2029
in West Africa and the Belgian Congo, 988, 3041, 3212, 4176
root culture *in vitro*, 848
rootstock-scion relationships, 4062
seed germination, 1860
shading, 959b, 960d, 960e, 1997i, 3039, 3047, 4063
soil types, 959b, 3039
spray deposits, 3054
varieties—*see also above*, clones—4157g
Cacti—*see also* Succulents—
a book on, 3182
diseases, 754g
growing in France, 2841
pests, 3906
Cadmium in plant nutrition, 3442
Caesium absorption and translocation, 1039, 2120, 2717k
Caffeic acid, boron deficiency in relation to, 3256
Caffeic acid in plants, 2070, 3828
Caffeine, leaf ageing induced by, 3530
Calacarus citrifolii, 4029
Caladium spp., pests, 2858
Calcium—
absorption by roots, 3769
contents of plants, factors affecting, 416, 1570, 2588, 2693, 4087
cyanamide, as a herbicide—*see* Herbicide compounds, cyanamide
determination, 68m, 1060, 1873, 1997j, 3233
foliar application, 2121
interrelationships with other elements, 221, 422, 439, 503, 510, 557, 1378, 1972, 1973, 1976, 2127, 2196, 2731, 2734
nutrition—
of fruit and nut trees, deciduous—*see also* Apple—820
of fruit and plantation crops, evergreen—*see also* Sugar-cane—616, 892, 959r, 1845, 1972, 1973, 1976, 1998e, 3014, 3015
of miscellaneous crops—*see also* Tobacco—2526
of ornamentals, 2864
plant analysis as a guide to, 3135
of vegetables—*see also* Tomato—416, 498, 499, 503, 535m, 1378, 1419, 1520, 1521, 2526, 2624, 2689, 3214, 3769, 3796n
oxalate crystals, nutrition affects, 3150, 3264
oxalate content of plants, taxonomical value, 3149
radioactive, 1419, 2121, 2526, 3312, 3769
role in metabolism, 1419
translocation, 2526
Calendula spp.—*see also* Marigold—nutrition, 1685
California—*see also under* United States—Dep. Agric., A.R., 2058c
California, trees and shrubs, ornamental, 2944j
Caliroa limacina, 316
Calliandria spp., shade trees, 1871
Callistephus chinensis, 667
Callisto geminatella, 1299, 2403
Callitroga macellaria, 3007
Callus formation, growth substances affect, 3434
Callus formation in tomato, 1546i
Calophyllum inophyllum, 2839v
Calospora vanillae, 1610
Camellia—*see also* Tea—
composition, leaf, 950
diseases, 3214, 3976
growth substance responses, 2854, 3974
nutrition, 3913
pests, 747, 2931
pollen viability, 2930
propagation, vegetative, 3970, 3971
species and hybrids, 1660, 4144
Year Book, roy. hort. Soc., 1777
Cameroons Develop. Corp., A.R., 1015c, 4170
Campanula spp., composition, 1686
Camphor (*Cinnamomum camphora*), 1630
Camphor basil (*Ocimum* spp.), 1635, 1636, 1672 l, 2785, 2798
Canada—*see also individual provinces and exp. stats*—
crops—
apples, 3400x
ornamentals, 3936
various, 3903j
vegetables, 535c, 2718 l
Minist. Agric., A.R., 3203
nat. Res. Coun., A.R., 2058d, 3226b
ornamental trees and plants in, 1753, 1786d, 1786e, 2945b
rubber and resin plants in, 1656
weeds and their control, 3565, 3621f
Canaigré (*Rumex hymenosepalus*), 2835
Canarium ovatum, 827
Canary Islands, crops, 1840k, 3796x
Candytuft—*see Iberis amara*
Canna, sucrose synthesis in, 3271
Cannabis sativa—*see* Hemp
Canning—*see separate crops under* processing *or* products
Capnodis cariosa, 2449i
Capsicum—
climatic requirements, 2711
composition, 1536, 2711, 2714, 2716m, 3793
diseases—
bacterial, 1538, 3794
fungus, 407, 1538, 1539, 2713, 3794
non-parasitic, 1378
resistance, 2712
virus, 1545g, 2712
fruit development, 530
fruit, glucose catabolism, 3795 l
growing in various countries, 2711, 2717q

Capsicum—(*continued*)—
growth substance responses, 1051
herbicide responses, 378, 382
nutrition, 1378, 3214, 3793
pests, 408, 1388, 2713
physiology, 2716u, 2716v, 3795 l
planting, spacing, 531
planting, time of, 3792
seedlings, production, 3761
soil management—
irrigation, 1537
soil heating, 2515
weed control, 378, 380, 382, 397, 3214
soilless culture, 1374
species, taxonomy and morphology, 1535
spray residues, 3643
varieties, 531, 1545r, 2033, 2712, 2713, 3214
Capua reticulana—*see Adoxophyes orana*
Caragana arborescens, 731
Caraway (*Carum carvi*), 1604, 2798
Carbohydrates—*see also individual compounds*—
biennial bearing in relation to, 151
biosynthesis, 180b
in cell wall mannans, 3027c
determination, 589o, 1062
metabolism and translocation, 156, 649c, 2268, 3197
Carbon—
dioxide—*see also* Photosynthesis *and* Respiration—
absorption by roots, 1058, 3240
fixation, 571, 1785q, 1786j, 3967
for storage—*see* Storage, gas
supplementary, for glasshouse crops, 486
monoxide, plant responses to, 2570
radioactive, 13, 566, 571, 1148, 1577, 1752, 1786s, 2268, 2746, 3114, 3164, 3240, 3269-3272, 3769, 3824, 3825, 3867, 3886, 3893, 3967, 4129, 4149
spray injury reduced by, 3250
Cardamoms, 1603, 1672b, 3857
Carex spp., control, 350, 1328, 2455
Carissa spp., glycoside contents, 2839i
Carnation—*see also Dianthus*—
composition, 1694
diseases—
bacterial, 1693, 2868, 3920
fungus—
root rot, stem rot and wilt (*Fusarium* and *Verticillium* spp.), 675, 676, 2868, 3997b
stem and leaf rot (*Alternaria dianthi*), 3921
storage rots of flowers and cuttings (*Botrytis cinerea*), 3921
various, 3920, 3997b
general, 3997e, 3997h
testing cuttings for the presence of, 3922
virus, 1694, 1785p, 3920
flowering time, factors affecting, 670, 671
flowers—
calyx splitting and other malformations, 2861, 2864, 2866, 2867
Carnation—flowers—(*continued*)—
colour, X-rays affect, 669
cut—
fumigation, 677
packing and storage, 665, 3921
prolonging life of, 2859, 2860
quality, factors affecting, 672, 674, 2865, 3920
growing in France, 2841
mutations, 1692
nutrition, 674, 754i, 2861, 2864-2866, 2945m
pests, insects and mites, 513, 677, 3997e
physiology, light responses, 2867, 3914
physiology, temperature responses, 670-672, 2867
pinching, 670
planting dates, 2863
plants or cuttings, packing and storage, 3921
research in Holland, 3905, 3906
propagation by cuttings, 653, 670, 675, 676, 1677, 1693, 2863, 3914
soil management, mulching, 2863
soil management, watering, 3920
soilless culture, 3920
varieties, 3907
Carob (*Ceratonia siliqua*), irrigation, 985
Carotene—*see* Vitamin A
Carotenoids—*see under* Pigments
Carpophilus hemipterus, 267
Carposina niponsis, 2449p
Carposina sasakii, 2418
Carrot—
composition, leaf, 12, 1474
composition, root, 43, 465, 1474, 2536, 2625, 2626
diseases, fungus, 1476, 3709
diseases, virus, 2628
economics, 393
flower biology, 3708
flowering, growth substances affect, 400, 2103
growing in various countries, 535e
growth substance responses, 400, 2103, 2521, 3636
growth, X-rays affect, 2631
harvesting, 1390
herbicide responses, 384, 3569
nutrition, bacterial fertilizers, 1386
nutrition, manuring and major elements, 466, 3631
pests—
fly (*Psila rosae*), 468, 1477, 2038, 2042, 2629, 3711
insects, various, 1477, 2628
nematodes, 3710, 3733
physiology—
carotene biosynthesis, 2626
enzyme activity, 467
photoperiodic responses, 3203
respiration, 1476
temperature responses, 1473, 1474, 2625, 3203
tissue culture, 2147g
vitamin responses, 2129
water relations, 3238

Carrot—(*continued*)—
planting of stecklings, machines for, 2627
root—
flavour, factors affecting, 465, 1477
softening, gamma radiation causes, 43
storage and pre-storage treatments, 167, 467, 1475, 2630, 3713
washing, 3712
seed—
germination, 3625
production, 3636, 3708
sowing rate and spacing, 1472
storage, 2629, 3624
treatments, 396, 1384, 2042, 2517, 2629, 2631, 3644, 3704, 3709
soil—
management—
irrigation, 1380
mulching, 53
rotations, 1469
soil conditioner responses, 2528
weed control, 339, 342, 380, 381, 384, 1358, 1359, 2045, 2489, 2505-2510, 3405, 3571, 3604-3606, 3608, 3609
water table, 2625
spray residues, 3644, 3704
storage—*see above*, root *and* seed
varieties, 390, 2718j, 3623
Carum carvi, 1604, 2798
Caryocar villosum, 1661
Caryodendron orinocense, 2825
Cashew—
flower biology, 4153
growing in various countries, 3176b, 4157c
harvesting, 956
nutrition, 1015s
pests, 3217
pollination, 3174, 4153
propagation, 1991, 3217, 4152
research in India, 996
seed germination, 1992, 4151
selection, 956, 3176a
transplanting, 3173
Cassia—
fistula, 2840g
spp., in Argentina, 1616
spp., as sources of senna, 1611, 1616, 1617
Castor (bean)—
breeding and selection, 2058 l
composition, bean, 649a, 649b, 1672v, 2839f
composition, plant, 1672g
flowers, sex expression, 641
growing in various countries, 1611, 2839q, 3904e
nutrition, 1662, 2527
physiology, alkaloid synthesis, 1672x
physiology, carbohydrate metabolism, 649c
planting, spacing, 2840k
research in various countries, 996, 4178
seed germination, 649a, 649b, 1672v
spray residues, 1316i
varieties, 2826, 4200j
Casuarina spp., root nodules, 753f, 1059
Cattleya orchids—*see also under* Orchids—1742
Cathode ray irradiation of fruits, 2370
Cauliflower—*see also* Brassicas *and* Broccoli—
climate, temperature responses, 415
composition, 2549
diseases, fungus, 418, 2053, 2556
diseases, non-parasitic—*see also below*, nutrition, molybdenum—415
economics, 393
growth, factors affecting, 999
growth substance responses, 2523
herbicide injury, 3568, 3604
nutrition—
calcium, 3796n
molybdenum, 1401, 2553, 3652, 3653
nitrogen, 1401
pests, insects, 420, 1545n, 3653
physiology, 1401
planting, pricking out, 2514
propagation, vegetative, 1400, 3650
seed treatment, 1385
seedling production, 2514, 4174
soil—
heating, 2515
management, fumigation, 3638
management, weed control, 380, 2556, 3405, 3568, 3604
varieties, 390, 2035, 2718j, 3202, 3623
Cawthron Inst., N.Z., A.R., 3204
Ceanothus spp., propagation, vegetative, 3970
Ceanothus spp., root nodules, 1059
Ceiba pentandra—*see* Kapok
Celeriac—
diseases, 3660
nutrition, 1375
planting between cucumbers, 3667
planting, spacing, 2561, 4174
seed treatment, 1384, 2517
soil management, irrigation, 1380
varieties, 2561
Celery—
composition, 2716r
diseases, fungus, 423, 1387, 2563, 3659, 4184
diseases, non-parasitic, 1378
flavour evaluation, 2716r
growth substance responses, 2520, 2521, 2524, 3636
nutrition—
manuring and major elements, 421, 1516, 3631
minor elements, 422, 1378, 1546 l, 2125
physiological aspects, 1546 l
pests, 2717t, 3638
planting, row orientation, 2562
soil management, fumigation, 3638
soil management, weed control, 380, 2489, 2491, 2492, 3568
spray residues, 3658
storage, 167, 1076
Cell—
division, factors affecting, 49, 51, 1113
division in germinating seed, 1545j
physiology, 2180, 3285j
sap concentration, frost hardiness in relation to, 1030

Cell—(*continued*)—
shape, growth substances affect, 2094
walls, chemistry of, 3200
walls, structure, 1170c, 1546 l, 3027c
Cellulose content of vegetables, 2536
Celosia cristata, 3918
Celosia sp., weed control, 2468
Celtis occidentalis, 358
Cement dust, plants injured by, 3232
Centaurea solstitialis, 1618
Centaurium minus, 2106
Centaurium sp., medicinal plant, 1619
Centipede control, 3526, 3562i
Centrosema pubescens, 2478
Cephaelis ipecacuanha, 1611, 1620
Cephaleuros parasiticus, 3177x
Cephonodes hylas, 3084
Ceramidia viridis, 835
Ceratitis capitata, 305, 789, 882, 1281, 1282, 1316b, 1884, 2016, 2019, 2148, 2413, 2414, 2953, 2986, 3534-3537, 4045g, 4045m, 4168, 4193
Ceratitis rosa, 2986
Ceratophyllum spp., control, 3574
Ceratostomella fimbriata, 856
Cercospora—
apii, 2563
capsici, 407
citrullina, 2578
coffeicola, 1995t
elaeidis, 895
kaki, 1837
musae—*see* Banana diseases, fungus, leaf spot
nicotianae, 545, 2753, 2760-2762
Cerococcus catenarius, 4097
Certification schemes for plant material, 2033, 3796h
Ceuthorhynchus—
pleurostigma, 1545n
spp., unspecified, 2717m
quadridens, 1306
Ceylon—
Coconut Res. Inst., A.R., 3062
Dir. Agric., Administ. A.R., 982
medicinal plants, 1611
Rubber Res. Inst., A.R., 1910
Tea Res. Inst., A.R., 1959
Chaetodacus spp., unspecified, 996
Chaetophorus vestitus, 2449i
Chamaerops humilis, 2021
Chaparral, garden of, 3195
Chauliognathus marginatus, 3007
Cheimatobia brumata—*see Operophtera*
Chelates—*see also separate elements*—
determination, 534q
growth substances act as, 1081h, 2146k
in plant nutrition, 47, 48, 137, 226, 440, 534q, 1219, 3312
Chelidonium majus, 1621
Chenopodium album, 2482
Chenopodium ambrosioides and *C. anthelminticum*, 3860
Cherry—
breeding and selection, 123
climate—
temperature responses, 114
winter chilling requirements, 1110
winter hardiness and injury, 234, 3332, 3472
composition—
fruit, 156-158, 2070, 3368, 3369
leaf, 107, 158, 248, 3346
root, 3346
diseases—
bacterial, crown gall, 2344, 3561b
fungus—
blossom blight (*Sclerotinia* spp.), 1248
Cylindrosporium spp., 3561e
leaf spot or anthracnose (*Coccomyces hiemalis*), 1249, 2373, 2448f, 3505
scab (*Fusicladium cerasi*), 3562q
shot-hole or coryneum blight (*Clasterosporium carpophilum*), 1250
non-parasitic, 2224
virus, 241, 242, 247-249, 337m, 1235-1238, 1317o, 1786 l, 2329, 3207
flower bud initiation, 3320
fruit—*see also above*, composition, *and below*, harvesting, marketing, processing *and* storage—
bruising, 2224
cracking, 233, 3287
drop, 2238d
flavour, insecticides affect, 2410
maturity, biochemistry of, 156, 1154
maturity, tests for, 3400s
pigments, 157
set, 1144
size, factors affecting, 1144
growing in Italy, 3401k
growth—
gravity affects, 3320
rate, 106
substance responses, 1144
harvesting—
injuries to fruit during, 2224, 3380
methods, 3380, 3381
time of, 1154
marketing, 3379
nutrition, manuring and major elements, 1125
nutrition, minor elements, 226, 248, 3346
pests—
fruit flies (*Rhagoletis* spp.), 307, 2051
mites, 1265, 3522
nematodes, 292
plum curculio (*Conotrachelus nenuphar*), 2410, 3532
slugworms (*Caliroa* spp.), 316
physiology, 3332
plum—*see Prunus cerasifera*
pollen, virus transmission by, 241
pollination, 123, 2185, 2238v
processing, drying, 2237
processing, handling fruit for, 180e
propagation by cuttings, 1097, 1193, 1676, 3318

Cherry—(*continued*)—
propagation on own roots, 3304
pruning and training, 3358, 3360
rootstocks—
cytology, 2158
dwarfing, 92, 4181
East Malling, 105, 1103
mahaleb, 105, 106, 180m
mazzard or sweet (*Prunus avium*), 180m
soil management, general, 2188
soil management, mulching, 53
spray and other chemical injury, 2410
storage, 2224
varieties, 2239p, 4181
Chestnut—
breeding and selection, 220b, 1210
composition, fruit and nut, 3452
diseases, fungus, bark canker or blight (*Endothia parasitica*), 289, 2388
diseases, fungus, various, 1210, 2389
flower biology, 2298
growing in various countries, 220e, 2301a, 2301 l
international commission on, 2301w
a journal on, 3222
pests, 317, 1290
pollination, 2298, 2301b
processing, 3452
propagation, vegetative, 1210
soil management, general, 2188
varieties, 2299, 2301c, 2301u
Chicory—
composition, 12, 1673 l
diseases, 2644
forcing, 2641, 4179
nutrition, 2642
planting, spacing, 592
research in Belgium, 993, 4175
root drying, 1605
weed control, 592
Chilli—*see under* Capsicum
Chilling requirements of tree fruits—*see also under* Temperature—116, 1110, 3013
Chilo tumidicostalis, 938
Chilotraea infuscatella, 1950, 1999c, 4139
Chimaeras—*see under* Mutations
China—
crops, 71, 1212, 2155, 3458x
grass—*see* Ramie
Malus spp. native to, 82
Pyrus spp. native to, 83
Chipping Campden Fruit Veg. Canning Quick Freez. Res. Ass., A.R., 3226e
Chloride—*see also* Salts—
as a plant nutrient, 529, 1513, 2121, 2690, 3346, 3806, 4195
plants injured by, 2887, 4012
translocation, 2067
Chlorine, radioactive, 2067, 2121, 3312
Chlorogenic acid and related compounds in plants, 567, 1216w, 1579, 2070, 2754, 2777, 3256, 3401j, 3828, 3829
Chlorophyll—*see also* Pigments—
biosynthesis, 968, 1081q
Chlorophyll (*continued*)—
breakdown in Gesneriaceae, 695
carotene biosynthesis in relation to, 2626
content of leaves, factors affecting, 202, 337t, 585, 730, 761, 1029, 1231, 1804, 2073, 3363, 3820
determination, 1602t
role in transpiration, 661, 3466
Chloroplasts, 589f, 1572, 2180
Chlorosis—*see also* Iron *and individual plants under* diseases, non-parasitic, *and* nutrition—
chloride-induced, 4012
lime-induced, 80, 223
transpiration in relation to, 3466
Chondodendron spp., alkaloids, 1672i
Chondrus crispus, 3904a
Chortophila brassicae—see Erioischia
Chortophila cilicrura—see Delia
Chromatographic methods in plant chemistry, 11, 46, 649u, 1018, 1150, 1216f, 1432, 3286f, 3885, 3903v, 4045n
Chromium as a plant nutrient, 48, 2289
Chromosomes, ionizing radiation affects, 41
Chrysanthemum—
a book on, 3187
breeding, 681
cinerariaefolium—see Pyrethrum
climate, frost protection, 4017
composition, 611
cytology, 3997f
diseases—
bacterial, 686
fungus, 611, 701, 2662, 2945h, 3922
testing cuttings for the presence of, 3922
virus, 514, 684, 685, 1701, 3928
flower(s)—
bud initiation and development, 2874
cut, prolonging life of, 2860
cut, water relations, 3917
forcing, 682, 3926
packing and storage, 665
flowering, factors affecting, 682, 683, 1698, 1699, 2877
growing—
a book on. 976
economics of, 2869
under glass or plastic, 3203
in various countries, 678, 1697, 2944f, 3996f
growth substance responses, 683, 1700, 2852, 2874-2877, 3927
heat treatment, 684
leaf temperature, 721
nutrition, 2861, 2871, 3913
pests—
insects, 2878, 3208
mites, 687
nematodes, 1687, 2879, 2945e
physiology—
light intensity responses, 680
light wavelength responses, 2872-2874
photoperiodic responses, 680, 688, 754a, 1006, 1697-1699, 2872-2875, 2944r, 3925, 3926

Chrysanthemum—physiology—(*continued*)—
temperature responses, 754a
pinching, 3926
planting density, 2869
propagation by cuttings, 514, 653, 688, 1323, 1677, 1696, 3923, 3924
shoot anatomy, 3997f
soil management, soil amendments, 2870
soil management, weed control, 1323, 2473, 3594
varieties, 679, 680, 754a, 1012, 1685, 1695, 2052, 2058t, 3905, 3907, 3925, 3997m, 4174
Chrysophyllum gonocarpum, 1998o
Cider apple varieties, 81, 266
Cinchona—
bark removal, 1673h
composition, alkaloids, 1672o, 3903f
crop forecasting, 3861
propagation, 2791
Cineraria physiology, 2069
Cinnamomum—
camphora, 1630
cassia, 649d
spp., essential oils, 2021, 2781
Cirphis unipuncta—see Pseudaletia
Cirsium arvense—see also Thistle—3616
Cistus spp., essential oils, 2798
Citric acid metabolism, 564
Citrullus colocynthis, 1331
Citrus—
books on, 969
by-products—*see below*, products
climate—
frost—
damage, 2978
flower morphology affected by, 2975
protection—
by earthing up, 4017
by fans, 2977, 4045h
by growing in trenches, 2962
resistance—
factors affecting, 773, 1797, 4017
physiology of, 2976
tests for, 4018
fruit affected by, 775, 3027r
rainfall and temperature, 4015
wind damage and protection, 231, 774, 823d
composition—
analytical methods, 1825, 4045a
flower, 2969
fruit—
factors affecting, nutrition, 768, 2969
factors affecting, rootstocks, 2958
general, 1998q, 2717r
grapefruit, 1840p, 3002, 3003
lemon, 2969
orange, 772, 1820, 2969, 3026t
leaf—
grapefruit, 3441
lemon, 1804, 2969
orange, 777, 1801-1804, 3441
root, 2969
Citrus—composition—(*continued*)—
seed, 639
cytology, 822y, 822z
diseases—
bacterial, 1812, 1840r, 1841b, 2026, 3027s
cause uncertain—
albinism, 761, 2979
bud union disorders, 764, 4006
peel breakdown, 4035
podagra, 765
fungus—
black spot (*Guignardia citricarpa*), 3033, 4045 l
blue and green moulds (*Penicillium* spp.), 798-801, 3000, 3001
Cladosporium brunneo-atrum, 787
damping-off or black leg (various spp.), 2983, 4045k
fruit storage rots, general, 42, 802, 2998
greasy spot or black melanose (*Mycosphaerella horii*), 4045f
gummosis, tip blight and brown rot (*Phytophthora* spp.), 1811, 2984, 3027m, 4022
melanose and stem-end rot (*Diaporthe* (*Phomopsis*), *Diplodia* spp., etc.), 800, 2019, 3000, 3001
-nematode complex, 822o
root rot (*Armillaria mellea*), 3026j
septoria spot (*S. depressa*), 1841m, 3033
wither tip, anthracnose, leaf blight and fruit rot (*Colletotrichum gloeosporioides*), 786, 2054, 2982
general, in various countries, 1807
mite caused, concentric ring blotch, 4029
nematode caused, spreading decline, 4045e
non-parasitic—
chimeric breakdown, 3027a
chloroses—*see also below*, nutrition, iron, zinc, *etc.*—4012, 4168
dieback, 2980
wood pocket, 3027a
virus—
general, 765, 822r
psorosis or scaly bark, 3027j
scalybutt, exocortis or Rangpur lime disease, 1840u, 4005, 4019
stubborn disease, 784, 2981
tristeza, quick decline, stem-pitting and root rot, 785, 822y, 822z, 1808-1811, 1840e, 1840x, 4005, 4020, 4176
vectors, 4176
vein-yellowing, 783, 1841 l
wrinkling, 1840 l
yellow shoot, 4045k
xyloporosis, cachexia and little leaf, 764, 822x, 4005, 4019
economics, 822u, 822w, 2993, 2994
Experiment Stat., Shizuoka, Rep., 983
flower structure, abnormal, 2975
flowering, time of, fruit set in relation to, 3026g
frost—*see above*, climate

Citrus (*continued*)—
fruit—*see also above*, composition, *and below*, marketing, packing, products *and* storage—
colour, factors affecting, 782, 2991
fumigation, 801, 3001
grafting, 1821
growth, changes during, 2974
growth rate, soil moisture affects, 4016
injury or peel breakdown, detection of, 2996, 4035
maturity, sprays affect, 795, 823a
pigments, 4045a
quality, factors affecting—
nutrition, 768, 1840a
rootstocks, 4005
sprays, 2991
various, 774, 776, 778, 1821
respiration, 2974
russeting, 4045f
set, factors affecting, 2972, 2973, 3026f, 3026g
size, factors affecting, 768, 776, 782
Somaliland lemon (*C. hystrix*), biometry, 4045o
specific heat and heat conductivity, 1822
splitting, 775, 3027r
yields, various factors affecting, 778, 822 l, 1798
fruiting, biennial, 769
growing—*see also below*, research *and* varieties—in—
Argentina, 2050
Europe, 822u, 2841, 3026x, 4045p
India, 1840v
Israel, 1840o
New Zealand, 1840i
South Africa, 1790
trenches, 2962
the U.S.A., 2059
growth—*see also below*, physiology—
measurement, 3284
rhythms or phases, 2970
root—*see below*, roots
substance responses of trees, 31, 825, 1805, 2972, 2973, 2981
vitamins affect, 1805
herbicide injury, 2511c
hybrids, colour tests to distinguish from nucellar seedlings, 2954
hybrids, various, 4004
hystrix, 4045o
ichangensis and *C. junos*, 1841j
leaf colour, factors affecting, 1804
leaf composition—*see above*, composition
machinery, 780, 1792
marketing, 822w, 1840q
mutations, 3027a
nutrition—
boron, 4011
chlorides, 2964, 2969, 4012
copper, 4011, 4014, 4192
foliar, 768, 769, 4010
iron, 771, 772, 823b, 2950, 4013
Citrus—nutrition—(*continued*)—
leaf analysis as a guide to, 767
magnesium, 1801, 1802, 4011
manganese, 1802, 4011
manuring—
general, 823a, 823f, 2997, 4045j
of limes, 2966
of mandarins, 2965
of oranges, 767, 1840m, 2964
nitrogen, 212, 767, 768, 1799, 1800, 2963, 2966, 3441, 4009, 4010
phosphorus, 767, 769, 1840a, 2967, 2968, 3441, 4011
potassium, 767, 770, 1801, 2963, 3441
sodium and salt tolerance, 2964, 4021
sulphur, 2969
zinc, 823b, 2950, 4011, 4013, 4192
packing—*see also below*, storage—
containers, boxes and cartons, 3285q
costs, 2993, 2994
washing and cleaning, 2999, 4036
pests—
ants, 788
aphids (*Aphis*, *Toxoptera* and other spp.), 794, 1009, 2985
black fly (*Aleurocanthus woglumi*), 1008
butterfly (*Papilio demoleus*), 1815
cicada (*Diceroprocta delicata*), 4025
control, biological, 3026q, 4045b
fruit flies (*Anastrepha*, *Ceratitis* and other spp.), 789, 2413, 2414, 2986, 4045m
Fuller's rose beetle (*Pantomorus godmani*), 4026
mealybugs (*Pseudococcus* spp.), 2987, 4045b
mites—
brevipalpus or flat (*B. lewisi*), 792, 1817, 2988, 4028
bud (*Aceria sheldoni*), 792, 1816, 2988
grey (*Calacarus* spp.), 4029
lewis (*Eotetranychus lewisi*), 2988, 4028
red or purple (*Panonychus* (*Metatetranychus*) *citri*), 790-793, 1819, 2989, 4028, 4030, 4031, 4033
rust or Maori (*Phyllocoptruta oleivora*), 787, 1009, 1840t, 2988, 2990, 4032, 4045f
six-spotted (*Eotetranychus sexmaculatus*), 792, 2988, 4028
Tetranychus telarius, 1818
yuma (*Eotetranychus yumensis*), 792, 2988, 4028
moth (*Lymantria lunata*), 4027
nematodes, 796, 822o, 1009, 1813, 1814, 2945e, 3026o, 4021-4023, 4045e
orange moth (*Gymnandrosoma aurantium*), 794
rodents, 3026b
scales—
black (*Saissetia oleae*), 1819
control, biological, 3026q
control, chemical, 794, 1818, 1819, 2991
dictyospermum (*Chrysomphalus dictyospermi*), 1818

Citrus—pests—scales (*continued*)—
red (*Aonidiella aurantii*), 795, 1819, 2992, 3026q, 4030, 4031, 4033
soft brown (*Coccus hesperidum*), 2992
tortrix moth (*Eulia sphaleropa*), 2427
physiology—
polarity, 4007
tissue culture, 32
water relations, 779
planting—
of mature trees, 781
methods, 2960, 3027b
in old citrus soils, 1796, 2961, 4024
pollination by bees, 1806
pollination, male parent's effect, 2971
polyembryony, 2971, 3027e
production and trade, world, 823e
products and by-products—
essential oils, 1840f
limonin, 2021
seed oil, 639, 1840f
various or general, 4045i
propagation—*see also below*, rootstocks *and* seed—
bud union malformation, height of budding affects, 766
budding, 1840c, 1841f, 2055, 2956
cuttings, 762, 2238 l
nursery management, 822a, 1840y, 4010
pruning, 148, 1792
research in—
Algeria, 3201
Australia, 822g, 2150
India, 996
Jamaica, 4180
Japan, 983
South Africa, 1791
Trinidad, 2049
reticulata, 1794
ringing, 822 l, 3026f
roots, growth and distribution, 1800, 3026n, 3284
rootstocks—
calamondin, 4006
effect, height of budding affects, 766
Citrus spp. and hybrids, 1794
Cleopatra and other mandarins, 766
Columbian sweet lime, 4002
disease resistant, 1795
for grapefruit and pummelos, 1793, 4005
identification, 763, 1841e
for lemons, 766
for limes, 786
for mandarins, 990, 1794, 1840d
for oranges, 2958
Philippine Tabog, 2959
Rangpur lime, 1840 l, 4002
rough lemon, 765, 1795
Sampson tangelo, 766
-scion relationships, 3026d, 3026e
-scion incompatibility, 4006
sour orange, 786
trials, 1794
trifoliate orange, 1794, 1796, 1797, 1811, 2968
Citrus—rootstocks (*continued*)—
Troyer citrange, 1796
in various countries, 2957
seed—
coat, albinism induced by, 761
embryo culture, 761
germination and testing, 1999j
nucellar embryo development, pollen affects, 2971
oil, 639, 1840f
storage, 2979
treatments, 2955, 2979
soil(s)—
management—
cover cropping and grass sod, 778, 2961, 2964, 3026c, 3026z, 4008
fumigation and other chemical treatments, 4022-4024
general, 2188
irrigation, 776-779, 823a, 1065, 3026c, 3026z, 4016
methods compared, 778, 1798, 3026z
mulching, 796
weed control, 363, 389d, 4022
moisture determination, 1841i
nutrient fixation in, 770
pH, factors affecting, 823f
salinity—*see above under* nutrition, chlorides *and* sodium
species, colour tests to distinguish hybrids from, 2954
species, ornamental, 3026k
spray(s)—
equipment, 822j
fruit maturity or quality affected by—*see above*, fruit
injuries, 2967, 3026p
oils compared, 4031
programmes, 791, 822v, 823a
and vapour residues, 793, 3026h, 4034
storage—*see also above*, packing *and* seed—
ammonia gas treatment, 798, 799
buildings, deodorization of, 1824
cooling methods for, 2995
dips and coatings, 797, 802, 1823, 2947, 3026h
general, 163
life, various factors affecting, 2997
physiology, a review, 1840s
rots—*see above under* diseases, fungus
temperatures, 2997
varieties—*see also above*, species—
Chironja, 4004
general, nucellar strains, 985, 2971, 4002, 4003
general, in various countries, 71, 1840h
grapefruit, nucellar strains, 4002
lemon—
Seville, 1840n
Somaliland, 4045o
in the U.S.A., 3026u
lime, 1999j
mandarin, in India, 1840v, 1841g
mandarin, nucellar strains, 3026s

Citrus—varieties (*continued*)—
orange—
× grapefruit hybrid, 4004
nucellar strains, 4002
in various countries, 1841g, 2958, 4045p
tangelo, 4002
Cladosporium—
brunneo-atrum, 787
carpophilum—*see Fusicladium*
cucumerinum, 2594
effusum, 290
fulvum—*see* Tomato diseases, fungus, leaf mould
herbarum, 284
Clasterosporium carpophilum, 288, 1250, 1251, 2371, 3500
Clematis diseases, 2932
Clematis propagation, 727
Clemora smithi, 4125
Climate—*see also* Drought, Frost, Hail, Lightning, Sun, Wind *and individual crops under* climate—
control in chambers or glasshouses, 2005, 4045g
dew or surface wetness measurement, 2449j, 3231
fruit cracking in relation to, 775, 3027r
micro- —
within a flower, 2065
in glasshouses—*see* Glasshouse
measurement, 68q
of strawberries, 2257
of trees and bushes, 3330
windbreaks affect, 229
phenological records in various countries, 1771, 2061, 2304, 3325
phenological studies, base temperature determination, 3324
plant diseases related to, 1857
plant responses to, 3562t
rain(fall)—
artificial stimulation of, 2063, 3230
crop yields in relation to, 846, 889, 945, 3443
damage to plants, 803, 2327
leaching of leaf minerals by, 3340
pest incidence in relation to, 2401
photoperiodic response of plants in relation to, 2064
potassium nutrition in relation to, 2717s
tables of, 3189
recording by photothermographs, 395
relative humidity measurement, 68q
weather stations, 8
Clitocybe tabescens, 3080
Cloches, crop cultivation under, 2046, 3796p
Clove growing in various countries, 1672a
Clover control in turf, 2485
Clysia ambiguella, 2419
Cnephasia wahlbomiana, 2420
Cob nut, hazel and filbert—*see also Corylus*—
diseases, bacterial, 255
flower (catkin) drop, 664
growing in various countries, 1216o, 3459a
Cob nut, hazel and filbert (*continued*)—
pollen composition, 1081g
pollination, 3458m
propagation, 219w
ringing, 16
soil management, general, 2188
varieties, 3458m
Cobalt in plant nutrition, 48, 499, 2289, 3260, 3722, 4121
Cobalt, radioactive—*see also* Gamma irradiation—1040-1042, 3722
Coccomyces hiemalis, 1249, 2373, 2448, 3505
Coccus hesperidum, 2992
Coccus viridis, 959v
Cochliostoma jacobianum, 2944u
Cockchafer control, 589q, 1307, 2910
Cocoa—*see also* Cacao—Conference, London, Rep., 3039
Coconut—
breeding and selection, 2049, 3063, 3177y, 4157f
button shedding—*see below under* nut fall
composition, leaf or nut, 3070, 4069
diseases—
cause uncertain, 868, 960c, 1865, 1998c, 1999b, 3068, 4069, 4176, 4192
nematode causes, 2049, 3069
virus, 3067
growing in various countries, 4046, 4156o
growth substance responses, 3065, 3066
nut—*see also below*, seed—
fall, 3065, 3066, 4070
harvesting, time for, 4071
milk (water)—
composition, 3070
growth substances from, 3066
orchid seedlings stimulated by, 1015q
nutrition, 866, 1865, 3064, 4069, 4176, 4192
pests—
caterpillar (*Nephantis serinopa*), 3177o
copra beetle (*Necrobia rufipes*), 1867
coreid bugs (*Pseudotheraptus* spp.), 2019, 2054, 4070
general, in various countries, 1998v
Melittomma insulare, 1008
nematodes, 868, 2049, 3069
rhinoceros beetle (*Oryctes* spp.), 867, 960g, 1008, 1866, 2026, 3177p
weevils (*Rhynchophorus* spp.), 1998u, 3069
pollination, 1842, 3174
products—
boards from husks, 959q
coir, 3903e
copra, 3176m, 4072-4076
furfural from shells, 827
general, 865
oil, 2021
research in—
Ceylon, 3062
France and French colonies, 4178
Tanganyika, 3217
various countries, 865
seed—*see also above*, nut—germination, 1864
soil management, intercropping, 958

Coconut (*continued*)—
soils, nutrient status, 960k
varieties, 1999s, 3177y
Codling moth (*Enarmonia pomonella*)—
control, biological, 1317m, 2421
control, chemical, 309, 1285, 1286, 1306, 2422-2424, 2443, 2448y, 2448z, 3518
time of emergence and warning services, 1317k, 3562n
Coelaenomenodera elaeidis, 1900
Coffea spp., classification and taxonomy, 959p
Coffee—
beans—*see also below*, processing *and* seed—
broken, respiration, 4081
composition, 2070, 4087
oil, 639
quality, factors affecting, 4086
Board, Indian, A.R., 1868
Board, Kenya, A.R., 4077
breeding and selection, 869, 959k, 1869
by-products from husks and pulp, 827, 883
by-products, waste as fertilizer, 3075
climate—
frost or cold injury and protection, 4092
rainfall, 3178b
temperature responses, 1875, 3073
composition—
bean—*see above*, beans
leaf, 876, 1871, 1873, 4087, 4089, 4090
plant, 4087
cytology, 877
diseases—
bacterial, leaf scorch (*Pseudomonas garcae*), 4091
fungus—
berry disease and die-back (*Colletotrichum coffeanum*), 1879, 3077, 4091, 4094
burn (*Phoma costarricensis*), 3079
leaf spot (*Cercospora coffeicola*), 1998t
leaf spot (*Omphalia flavida*), 3078
root diseases (various organisms), 3080-3082, 4093
rust (*Hemileia vastatrix*), 879, 1881, 4077
non-parasitic, 1011, 4091
virus, 1877
economics, 4078
encyclopaedia of, 3196
flower biology, 877, 1876
flower bud dormancy, 1875, 3074
fruit set and drop, factors affecting, 877
growing—
in Abyssinia, 4157k
in the Far East and the Pacific, 959 l, 3176f
a review, 3178c
in South America, 872, 873, 959y, 1999a, 3071
in West and Central Africa, 4156v
growth—
cycles, 3178b
rejuvenation, 4083
shoot anatomy, flowering related to, 3074
substance responses, 825
Coffee (*continued*)—
leaf fall, 4077
nutrition—
competition of shade trees, 1871
foliar, 876, 3076, 4077, 4090
manuring and major elements, 1011, 1015s, 1872, 1874, 1879, 1999a, 3075, 4077, 4088, 4091
minor elements, 1011, 1879, 3076, 4077, 4089, 4090, 4192
plant analysis as a guide to, 1873, 4087
pests—
antestia bugs (*Antestiopsis* spp.), 880, 3083, 4077, 4098
berry borer (*Stephanoderes hampei*), 881, 1882, 1883, 4095
caterpillars (*Dichocrocis* spp.), 1882
crickets (*Idiarthron* spp.), 3079
fruit fly (*Ceratitis capitata*), 882, 1884
general, in various countries, 3177 l, 3177r
green bug (*Coccus viridis*), 959v
hawkmoth (*Cephonodes hylas*), 3084
lace wing bugs (*Habrochila* spp.), 3083, 4077, 4096
leaf miners (*Leucoptera* or *Perileucoptera* spp.), 1885-1887, 2019, 3085, 4077
mealybugs (*Pseudococcus* and other spp.), 1009
membracid (*Umbonia spinosa*), 3178h
scale insects, 4097
stem borer (*Bixadus* and *Xylotrechus* spp.), 1890, 2019
termites, 3086
thrips (*Diarthrothrips coffeae*), 1888
weevil (*Araecerus fasciculatus*), 1997w
white borer (*Anthores leuconotus*), 1889, 4077
physiology—
nutrient uptake, 4087
seed respiration, 4081
water relations, 1881, 3074
planting—
contour, 4157h
methods, general, 4082
spacing, 872, 1999a
pollen and pollination, 3174
processing—
caustic soda method, 1997g
drying, 1892, 3087
fermentation and washing, 883, 1891, 3177n, 4099
machinery, 959o
a review, 961c
production costs in India, 4078
production and trade, 1998n, 3178e, 4157m
propagation—
by cuttings, 871, 960w, 1870, 1997v, 4077
by grafting and marcotting, 960w
nurseries, 3072, 3177r
pruning, 3178b, 4082, 4083
research in—
the Belgian Congo, 3212
India, 1868
Indonesia, 2029

Coffee—research in—(*continued*)—
Jamaica, 4180
Kenya, 995, 4182
Tanganyika, 3217
Uganda, 1011, 3218
root, cation-exchange capacity, 1871
root systems, 4084
seed—
germination, 870, 1878, 4079, 4080
respiration, 4081
shape, shade affects, 4086
size, 4079
shade—
nutrition affected by, 1871
removal, effects of, 873
requirements and responses, 872, 3075
soil fertility in relation to, 4086
trees and other plants, 1871, 1879, 3080
soil(s)—
conservation, 4085
insecticide accumulation in, 1998z
management—*see also above*, nutrition *and* shade—
drainage, 4157 l
irrigation, 875, 1065
mulching, 874, 2054, 2055, 4077, 4089
weed control, 361, 2477, 2479, 2511d, 4077
properties, termites affect, 3086
sprays—
apparatus for, 878
deposits and their persistence, 4098
residues, 2020
tonic, 4077
varieties in Abyssinia, 4157k
varieties, seedling arabica, 872, 3176y
Cola spp., nut composition, 4156f
Cola spp., pests, 3175
Colchicine—
gall formation induced by, 2408
growth inhibition caused by, 3648
treatment—
of fruit and plantation crops, 1962, 2301p, 3123
of ornamental plants, 1691, 1786m, 2944c
of vegetables, 462, 1393, 3648
Colchicum spp., cytology, 1785e
Cold injury to plants—*see* Frost *and* Temperature, low
Coleus varieties, 4174
Coleus, weed control, 2468
Colletotrichum—
coffeanum, 1879, 1880, 3077, 4091, 4094
falcatum—*see Physalospora tucumanensis*
gloeosporioides, 605, 786, 3093
lagenarium, 2577-2579, 3673
lindemuthianum, 1446, 1448, 2593
nicotianae—*see also below*, *tabacum*—1602v
phomoides, 517, 2700, 3203
spp., unspecified, 423
tabacum—*see also above*, *nicotianae*—577
violae-tricoloris, 2889
Collybis velutipes, 2612
Colocasia spp., as vegetables, 533, 1469
Colombia, crops, 1620, 2780k, 3026y, 3027d
Colonial—
agric. Animal Health Forestry Res., A.R. Cttee for, 2022
Pesticides Res. Unit, Rep., 2019, 2020
Products Council, A.R., 2021
Colour—*see also* Pigments—charts, horticultural, 2060
Colour standards for cherry maturity, 3400s
Columnia banksii, 3929
Commelina benghalensis, 2482
Commercial Grower Handbook and Diary, 1015d
Compositae, flower type classification, 3909
Compositae, seed testing, 3796a
Compost(s)—*see also* Mushroom *and* Soil, potting—
from fruit residues, 220a
John Innes and other standard mixtures, 963, 1785z, 3911, 3919
leaf moulds, 1682
preparation, 2842
research in New Zealand, 2040
from sewage, 1681
sterilization, 54
from sugar trash and distillery slops, 960s
from tobacco waste, 1602g
from town wastes, 55
Conifers—*see also* Trees and shrubs *and separate species*—seed storage and testing, 4173
Conifers, weed control, 340, 357, 2468, 2469, 3567, 3590
Conotrachelus nenuphar, 303, 1278, 2305, 2410, 3532
Containers for packing fruit and vegetables—*see* Packing, containers
Containers for raising plants—*see under* Nursery stock *and* Pot
Contarinia nasturtii, 2046
Copal, plant sources, 2840i
Copper—
content of plants, factors affecting, 2924
determination, 68c, 1081j, 3233, 3285p
interrelationships with other elements, 1788, 1789, 3076, 3113, 4011, 4014
metabolism in plants, 46
nutrition—
of fruit and plantation crops, evergreen—*see also* Citrus nutrition—1788, 1789, 3113, 3176t
of ornamentals, 734, 4173
of vegetables, 403, 2121, 2588, 2633
radioactive, 2121, 3312
seeds treated with, 2126
sources, chelates, 48
Coreopsis, growth substance responses, 3927
Coriander—
composition, 590, 612
grafted on fennel, 3874
growing in various countries, 2798, 2840m
oil, 3874
Coriaria myrtifolia, 3903d
Cork formation in wound tissues, 1410

Cork oak (*Quercus suber*), 3903p
Cornell Univ. agric. Exp. Stat., A.R., 3226c
Cornflower, flower pigments, 3996c
Cornus—
florida, 2928, 2933, 2934, 3970, 3977
spp.—
fruits, vitamin C in, 158, 159
light responses, 3972
propagation by cuttings, 725, 2933, 2934, 3970, 3972
stolonifera, 1757
Coronilla varia, 2786
Coronopus didymus, 1366
Corticium—
fuciforme, 3954, 3960
salmonicolor, 1922, 4124
solani, 589s, 711, 750, 2983
Cortisone, plant sources of, 594, 1613, 2793
Corylus spp.—*see also* Cob nut—botany and distribution, 3458m
Coryneum beijerinckii—see Clasterosporium carpophilum
Cosmopolites sordidus—see Banana pests, borer
Costs—*see under* Economics
Cotoneaster—
propagation by cuttings, 725
as an interstock for pome fruits, 91
weed control, 3591
Couch grass—*see Agropyron and Cynodon* spp. *and* Crabgrass
Cover crops—
for deciduous fruit trees—*see also* Apple *and* Peach *under* soil management—999, 1118, 1119, 1121, 3401c
for green manuring, 778, 812, 1132, 1379, 2280, 3026z, 3350
nutrients stored by, 960i
plants—*see also under Crotalaria, Desmodium and Tephrosia*—
Flemingia congesta, 957
grass and clover swards, 1116, 2189, 3207, 3351, 3532, 4008, 4009, 4049
lucerne, 2281
Stylosanthes spp., 3148
tropical, diseases, 4157e
tropical, leguminous, a guide to, 4047
soil characters affected by, 3207
spraying, pests of crops controlled by, 2434
for tropical and subtropical crops—*see also* Citrus, soil management—957, 960i, 1999u, 3148, 4049
for vines—*see* Vine, soil management
Crabgrass (*Digitaria* spp.) and its control, 351, 361, 373, 1353, 1355, 1960, 2479, 2484-2487, 3585, 3602, 4195
Crabgrass, silver (*Eleusine indica*), 2488
Crabs, land, control of, 2016
Cranberry—
diseases, 2053, 3637
flowers, nectar secretion, 2252
fruit set, 1175, 3403
fruit size, 3403
herbicide injury, 2462
marketing, 3415
Cranberry (*continued*)—
nutrition, 3403
pests, 2051
pollination, 2301j
soil management, general, 2188
soil management, weed control, 350, 2461, 2462, 3567, 3583, 4195
varieties, 3203
Crassula spp., gibberellin responses, 2850
Crataegus spp.—
diseases, 3981
as food plants, 3407
as rootstocks for fruit trees, 91
Crepis spp., flowering, growth substances affect, 2103
Cress (*Lepidium sativum*)—
root growth, 2131
root, growth responses, 1046
seed germination, 2602
Cress, land (*Barbarea verna*), culture, 2643
Crinum flaccidum, 753v
Crocus—
growing for saffron, 649g
soil management, weed control, 1342
species in Israel, 753q
taxonomy, 1786q
Crotalaria spp., nematode resistance, 3026r
Crotalaria spp., as shade plants, 1963
Croton spp., propagation, 1676
Croton tiglium, 1611
Crown gall (*Bacterium* (*Agrobacterium*) *tumefaciens*)—
control, 2344, 3561b
on plants, deciduous fruit and nut trees, 3561b
tissue culture, 1052, 1571
Crucifers—*see also* Brassicas *and individual crops*—seed treatment, 1407
Cryptognatha nodiceps, 3037
Cryptolaemus montrouzieri, 2987
Cryptomeria spp., propagation by cuttings, 3971
Cryptophlebia illepida, 811
Cryptosporella viticola—see Phomopsis
Cucumber and gherkin—*see also* Cucurbits—
breeding, 3673
climate—
frost resistance, 3672
light responses, 424, 1371, 1417, 1418, 2028, 2512, 2513, 2575, 3661, 3662, 3669
temperature responses, 424, 1417, 1418, 2075, 2512, 2575, 3662, 3669
wind protection, 2565, 2566
composition, 404, 3670, 3903u
diseases—
bacterial, 1546p
fungus, 513, 535h, 2579, 2594, 3673, 3674, 3796t
virus, 243, 3673
economics, 3795s
flowers, sex expression, 424, 1418, 2518, 2575, 3663, 3669
growing under glass or plastic, 535c, 2516, 2564, 2565, 3662

Cucumber and gherkin (*continued*)—
growing in various countries, 1546v, 2716k, 2718 l, 3795s
growth, growth substances responses, 2090, 2520, 2522, 2574, 2575
growth, herbicides affect, 342, 382, 384, 2505
haploid form, 3663
hybrids, vegetative, 3672
intercropping with celeriac, 3667
nutrition, manuring and major elements, 1375, 2572, 2573, 2717x, 3668-3670
nutrition, minor elements, 404, 1419, 1420, 2717i
pests, insects, 1424, 3641, 3680
pests, nematodes, 405, 3675
physiology and metabolism—*see also above*, climate—1419, 2075, 2570
planting, spacing, 2717x, 3667, 3668, 4174
pollen, X-ray treatment, 3666
pollination, 2519, 3664, 3665
propagation—*see also below*, seed *and* seedling—by grafting, 1414, 2564, 3671, 3672
pruning, 2564
research in Holland, 3673
as a rootstock for tomatoes, 2668
rootstocks for, 425, 1414, 3672
seed—
germination, 3626
oil, 3903u
production, 1414
quality, 2518
storage, 3624
treatments, 1384, 1415, 2570, 2571, 2576, 3268
seedling production, 2512, 2513, 2567, 2568
soil management—
irrigation, 3670, 3795s
mulching, 992, 2530, 2717i
soil heating, 1416, 2515
weed control, 342, 382-384, 2491, 2492, 2496, 2497, 2505, 3568, 3606
soilless culture, 1373, 1374, 2569
spray injury, 513, 2579
varieties, cucumber, 534t
varieties, gherkin, 3796j
Cucurbita ficifolia, 425
Cucurbitaceae, bitter principles of the, 1545i
Cucurbits—*see also individual crops*—
diseases, fungus, 427, 3674
growing in various countries, 1545x
seed treatment, 427
weed control, 380
Cumin (*Cuminum cyminum*), 590
Curare, sources of, 1672i
Curculio spp. on chestnut, 317
Curcuma longa, 389b, 2781, 3903b
Cuttings—
diseases, tests for, 3920, 3922
diseases transmitted by, 675
flower bud, rooting affected by, 653
growth substance—*see also below*, treatment—content, rooting related to, 727, 751
hardening off, 3991
Cuttings (*continued*)—
irrigation, sub-, 653, 654
leaf—
area, rooting related to, 653
-blade, 653, 1400, 1709, 2944y
-bud, 96, 1097
drop control, 1006, 3203
light—
artificial, for, 3982
intensity responses, 95, 653, 762, 2247
photoperiodic responses, 2928, 3964, 3972
reflected, for, 3914
mist humidification for, 95, 96, 655, 762, 845, 1676, 1677, 1773, 2142, 2863, 2933, 2944z, 3112, 3318, 3970, 3971, 3987, 4038
nurse grafts to aid rooting, 741
planting angle, rooting affected by, 203
plants propagated from—*for separate plants see each under* propagation—
conifers, 3971
ornamentals—
herbaceous—*see also* Carnation *and* Chrysanthemum—653, 654, 1677, 3214
various, 829, 2944y, 2944z
woody—*see also* Azalea, Camellia, *Cornus*, Holly, Magnolia, Rhododendron *and* Rose—36, 653-655, 724-727, 740, 741, 743, 751, 1676, 1677, 1758, 1761, 1766, 1768, 1772-1774, 2939, 2944h, 3923, 3970, 3971, 3980, 3982, 3986, 3987, 3991
small fruits—*see also* Vine—185, 1097, 2247, 2255
temperate fruit and nut trees—*see also* Apple, Cherry *and* Plum—219w, 1097, 2171, 2238 l, 3316, 3318
tropical and subtropical crops, tree and bush—*see also* Cacao, Citrus, Coffee, Olive *and* Tea—755, 957, 2783, 2791, 2948, 3112
tropical and subtropical crops, various—*see also* Sugar-cane setts—755, 2839d, 3859, 3871, 3872
various temperate crops, 622
vegetables, 1400, 3650
plastic covers to protect, 844, 2247, 3043, 3044, 3991
plastic pots for, 3045
polarity overcome, 1193, 4007
propagating frames and pits for, 3992
reviews on, 36
root—
factors affecting regeneration of, 94, 1478, 2163
plants propagated from, 1106, 3872
systems compared with those of seedlings, 3871
rooting—
factors affecting, 1870, 2939, 3243
media—
aeration, 3154
heating, 2849, 2942

Cuttings—rooting—media (*continued*)—
moisture responses, 653, 3923, 3924
types, 1696, 2921, 2934, 3971
water, 653
source—
juvenility induced in, 755, 3112
plants—
differing in age, 2163, 2944h
differing in nutrient status, 2274, 2282, 3153
forced with artificial light, 688
shoots of different ages or positions, 95, 185, 2171, 3316, 3859, 4128
shoots of different vigour, 95, 96
split *vs.* whole, 871
storage and stratification, 670, 691, 725, 3316, 3906, 3921
temperature responses, 653, 670, 2265, 2849, 3924
tip, for virus elimination, 1769, 2255, 3920
treatment—
with bacterial cultures, 2810
disbudding, mechanical, 3433
etiolation of stems, 2948
with fungicides—*see also* Sugar-cane setts, treatment—3859
with growth substances, 219w, 653, 762, 1006, 1190, 1193, 1676, 1709, 1768, 1870, 2089, 2238 l, 2282, 2791, 2933, 2934, 2942, 3316, 3318, 3859, 3905, 3906, 3923, 3980, 3986, 4007, 4077, 4174
with plastic-resin sprays, 4077
with potassium permanganate, 1768
with various chemicals, 2282, 2934, 2942
with vitamins, 762, 2942
with water, 203
Cutworm control, 581, 1317d, 1592, 2548
Cyamopsis psoraloides, 906
Cyamopsis tetragonaloba, 649i
Cycads, species and their uses, 3904b
Cyclamen—
breeding, 3996k
climate, air pollution, 3232
diseases, 701, 2856, 2945i, 3939, 3941
flower colours and pigments, 3940, 3996k
growing under mist, 2893
growth substance responses, 2851, 2852
morphology, 3938
nutrition, 2027, 3913
pests, 3939
pollination, 700, 2551
research in Holland, 3905, 3906
seedlings, raising of, 3761
shading, 2893
soil composts, 3912, 3939
species and varieties, 3907, 3938
storage of plants, 2892
Cycloconium oleaginum, 4040
Cydia molesta—see Fruit moth, oriental
Cydia pomonella—see Codling moth
Cylindrosporium padi, 3561e
Cynodon spp., as lawn grasses, 713
Cynodon spp., as weeds, 363, 1321, 2467, 2484
Cynosurus cristatus, 2906
Cyperus—
esculentus, 2827
luzulae, 2845
scariosus, 2839m
spp., as weeds (nutgrass), 364, 540, 1321, 2477, 2496, 3214, 4168
Cyphomandra betacea, 3744
Cypripedium spp., propagation, 3962
Cyprus, crops, fruit, 3026x
Cyprus Dep. Agric., A.R., 985, 2023
Cytisus sessilifolius, 2786
Cytoplasmic particles of fruit, metabolic processes in, 822c, 822d, 822f, 822k

Dacryodes (*Pachylobus*) *edulis*, 1993
Dactylium dendroides, 3696
Dacus—
cucurbitae, 1424, 3534, 3680, 4045g
dorsalis, 4045g
oleae—see Olive pests, fly
Daffodil—*see* Narcissus *and under* Bulbs
Dahlia—
books and reviews on, 702, 979
classification, 2894
diseases, 1012
flowering, growth substances advance, 2648
flowers, cut, prolonging life of, 664, 2859
growing in the U.S.A., 2894
pests, 1687
propagation by cuttings, 1677, 1721
propagation by seed, 1722
varieties, 2894, 2944 l, 3905-3907
Daisy, ox-eye, flowers, cut, prolonging life of, 3917
Damping-off—*see also Corticium, Pythium and other relevant genera*—composition of plants affected by, 428
Damping-off, control with chemicals, 1009, 1011, 1385, 1445, 1539, 2983, 4195
Damson—
diseases, 1239
pollen viability, 2183
taxonomy, 1095
Danish—*see under* Denmark
Daphne—
gibberellin responses, 2851
mezereum, 656
spp., propagation, vegetative, 3970
Dasyneura mali, 3561i
Dasyneura tetensi, 2402, 2416
Date—
by-products, 809, 822s, 1841h, 3026v
climate, rain damage, 803
composition, fruit, 807, 3027i
diseases, 808, 1840w, 4037
fruit—
production, leaf growth affects, 806
production records, 822i
quality, factors affecting, 803, 3027i
ripening, chemical changes during, 3005
storage, 807, 808
growing in Spain, 822s
growing in the U.S.A., 822b, 2059
leaf age and number, yield affected by, 806

Date (*continued*)—
nutrition, 804
pests, 3004, 4037
physiology, water relations, 803
planting, transplanting mature trees, 781
pollination and pollen, 805, 1842
research in Algeria, 3201
seed endosperm, cell wall structure, 3027c
soil management—
general, 2188
irrigation, 803
weed control, 364
varieties, 822t
Datura—
discolor, taxonomy, 3862
spp., composition, alkaloids—*see also below, stramonium*—1611, 1623, 3862-3864, 3903h
stramonium—
alkaloid synthesis or composition, 596, 597, 1622
diseases, 1622
growth substance responses, 597
nutrition, 596
tatula, as a tomato rootstock, 488
Deer control and repellents, 1297, 1317p, 2017, 4173
Deficiencies, mineral—*see also individual elements*—in temperate fruit crops, 337c, 3401c
Defoliation—
with chemicals, 728, 1754, 2095
growth substances prevent, 774, 1006, 3203
root growth affected by, 1760
size of surviving leaves affected by, 3815
Dehydration—*see* Drying
Deianira nervosa, 3865
Delia antiqua—*see* Onion pests, flies
Delia cilicrura, 1497, 2597, 3739
Delphinium—*see also* Larkspur—growing in Great Britain, 754b
Delphinium growth, vegetative regeneration, 2880
Deltocephalus pulicaris, 715
Dendrobium spp., bud drop, 1742
Dendrocalamus spp., bamboos, 1668
Dendrophthoe falcata, 2456, 2457
Denmark—
crops, fruit, 1090, 2238n
Horticultural Yearbook, 3202
Seed Testing Stat., A.R., 3226o
Weed Res. Inst., A.R., 1368 l
Depressaria erinaceella, 1392
Dermatitis, plants causing, 4105
Dermolepida albohirtum, 3143
Deroceras laeve, 1744
Derris growing in Ceylon, 1611
Derris nutrition, 2055
Deserts, crops in, 2059
Desmia funeralis, 3543
Desmodium triflorum, 2482
Deutsche Akad. LandwWiss. Berlin, Yearbook, 2043
Deutzia spp., propagation by cuttings, 727
Dew—*see under* Climate
Dextrins, determination, 589o
Dialeurodes chittendeni, 1782
Dialeurodes citri, 2931
Dianthus spp.—*see also* Carnation—
flowers, cut, prolonging life of, 2859
photoperiodic and temperature responses, 673
propagation by cuttings, 654
Diaphania spp., unspecified, 429
Diaporthe citri, 3000, 3001
Diaporthe eres, 3908
Diarthrothrips coffeae, 1888
Diatraea spp., on sugar-cane—*see* Sugar-cane, pests, borers
Diceroprocta delicata, 4025
Dichapetalum toxicarium, 2021
Dichocrocis crocodora, 1882
Dichondra spp. turf, weed control in, 374
Dictionary, agricultural, in Finnish, Swedish, German and English, 4161
Dictionary of scientific terms, 4159
Dictyophora pallida, 1949
Didymella lycopersici, 513, 1524, 2034, 3786
Dieffenbachia spp., diseases, 1764
Diervilla florida, 2927, 2928
Diervilla spp., propagation by cuttings, 3972
Digitalis—
gloxinioides, 668
lanata, 3866
lutea, 1672m
purpurea, 2068, 2792, 3866
spp., in Bulgaria, 2839a
thapsi, 3866
Digitaria—*see* Crabgrass
Dill—
composition, 590
growth substance responses, 2111
nutrition, 44
Dinoderus minutus, 1673n
Dioscorea spp.—
calcium oxalate crystals in, 3264
as medicinal plants, 594, 1672f, 2793
nutrition, 3264
Diplocarpon earlianum, 3509
Diplocarpon rosae, 1751, 2922, 3965
Diplodia natalensis, 3000, 3001
Diplodia theobromae, 605
Dipteryx odorata, 1611
Directory Organ. Field Activ. U.S. Dep. Agric., 2015
Disease(s)—*see also* Bacterial *and* Virus *and separate pathogens and hosts*—
books on, 1217, 3188, 3193
composition and metabolism of plants affected by—*see also* Toxins, pathogen-produced—428, 498, 1239
control—*see also* Antibiotics *and* Fungicides—
biological, 270, 2580, 3997k
by cathode ray irradiation, 2370
by flood fallowing, 3034
by heat treatment—*see* Heat
by soil inversion, 610

Disease(s)—control (*continued*)—
by uranium, 1245
detection by aerial photography, 65
forecasting, 2304, 2383-2385, 3032
of fruit plants, 3188
incidence, irrigation affects, 517
losses from, 2358
resistance, factors affecting, 131, 256, 257, 260, 266, 467, 478, 505, 520, 521, 692, 786, 820, 994, 1012, 1402, 1404, 1561, 1899, 1921, 2038, 2639, 2696, 2762, 2815, 2951, 3913
in various countries, 2303
Ditton Lab. and Covent Garden Lab., Fruit, Veg. and Plant Prod. Div., A.R., 1010
Ditylenchus—
destructor, 535s
dipsaci, 699, 3947
spp., unspecified, 3997k
Dogwood—*see Cornus*
Dominica, Dep. Agric. For., A.R., 4200d
Dormancy—
breaking, chemicals cause, 1037
breaking, growth substances cause, 1112, 1707, 2853, 2854, 3621i
bud composition in relation to, 1110
growth substances—
endogenous, in relation to, 116, 751
induce, 1112
prolong—*see also* Onion, bulb—720, 2944k
irradiations induce or prolong, 3713
photoperiod affects, 2927
prolonged, in deciduous trees and shrubs, 116, 1110, 1186
prolonged, in subtropical trees, 3013
seed—*see* Seed
silicone coatings to prolong, 1080
sprays to prolong, 232
tetrazolium test for, 1723
winter hardiness in relation to, 1111
Dorstenia bornimiana, 754j
Dothidella ulei, 3111, 4117
Dracontomelum edule, 1843
Drepanothrips reuteri, 2433
Drimiopsis kirkii, 2944y
Drosicha mangiferae, 3094
Drosophila melanogaster, 3539, 3541, 3787
Drosophila spp., unspecified, 89, 1528, 3540
Drought resistance—
breeding for, 198
determination of, 1036
factors affecting, 1550, 1936, 1937
Drug plants—*see* Medicinal plants
Drying—
cacao, 862, 4067
canaigré roots, 2835
chicory roots, 1605
coffee, 1892, 3087
fruits, various, 2237
grapes, 215
hops, 632, 1650, 1651, 1673o, 3892, 3903g
infra-red rays for, 3877
Drying (*continued*)—
kilns and machines for—
cacao, 862, 863
coffee, 3087
copra—*see under* Coconut products
fruit, 839
hops, 2816, 3890, 3891
pyrethrum, 2818
rubber, 1999e
tobacco—*see under* Tobacco curing
litchis, 1826, 3011
medicinal plants, 3877
pyrethrum flowers, 633
seaweed, 3903q
seeds, 3706
Dryinus pyrillae, 1949
Duboisia spp., medicinal plants, 598, 1624, 2839h
Dutch lights—*see* Frames
Dwarfing trees, methods of, 91, 3996a

Earhart Plant Res. Lab., Calif., a book on, 980
Earthworm populations of orchards, 3401d
Earthworm, radioactive condition of soil decreased by, 1040
Earwig (*Forficula* spp.) control, 2051
East African Agric. For. Res. Organ., A.R., 1015e
East African Tea Res. Inst., A.R., 1960, 4142
East Malling Res. Stat., A.R., 3207
East Malling Res. Stat., index to work at, 965, 966
Ecballium elaterium, 2794
Economics—*see also* Labour *and* Trade—
of crops—
fruit harvesting and packing—*see* Harvesting, *and* Packing house operations
glasshouse, 59, 2136, 2137
ornamentals, 666, 2869
small fruits, 188, 2027
temperate fruit and nut trees, 2238j
tropical and subtropical fruit and plantation—*see also* Citrus *and* Sugar-cane—896, 4078, 4126, 4156t
vegetables, 393, 485, 3741
of glasshouse construction, 4179
of mechanization, 147, 393, 1593, 2481, 3847
of plant protection, 338a, 2358, 2359, 3556
soil variables in relation to, 138
of weed control, 370, 389a, 3612
Efford exp. Hort. Stat., work at, 1081d
Eggplant—
climate, temperature responses, 3791
composition, 529, 1843, 3793
diseases, bacterial, 2716n
diseases, fungus, 2709, 2710
fruit development, 530
growth substance responses, 2522
nutrition, 529, 3793
parthenocarpy induced, 1540
pests, 1389, 1541, 3638
propagation by grafting, 487
seed treatment, 396
seed vivipary, 534u

Eggplant (*continued*)—
soil management, fumigation, 3638
soil management, weed control, 380
soilless culture, 1374
topping, 2716n
varieties, 392, 1545 l
Egypt, crops, fruit, 822h
Egypt, scientific institutions, 2058s
Eichhornia crassipes, 1329, 2511e
Elaeagnus angustifolia, 358, 2935
Elaeagnus spp., propagation by cuttings, 3971
Elaeis (mainly *E. guineensis*—oil palms)—
breeding and selection, 1997o, 4156j
climatic responses, 889, 4109
composition, fruit, 3176e, 4108
composition, leaf, 890-893, 3100, 4110
diseases, cause uncertain, 4111
diseases, fungus, 895, 1899
economics, 896
flower and fruit development, 889, 4108
fruit yield cycles, 3099, 4109
growth rates, 3098
harvesting, 896
leaf development, 889, 3098
nursery management, 887, 4111
nutrition—*see also above*, composition, leaf, 890-892, 1899, 3099, 4109, 4110, 4170
palm oil—
composition, 1997u, 4108
content, determination, 959i
trade, 1997u
pests, insects, 1900, 4157p
physiology, oil metabolism, 4107, 4108
physiology, photosynthesis, 3098
pollination, 894
research—
in the Belgian Congo, 3212
in British West Africa, 1898, 3177d
in French West Africa, 4178
root-leaf relationships, 3098
seed germination, 3097, 4106, 4107
seed storage, 3097
soil management—
cover cropping and bush fallows, 960i
intercropping, 888
weed control, 2481
spray injury, 895
tree poisoning, 897
varieties, 1999w, 4156j
Elaiosomes, vitamin C content, 11
Elder fruit composition, 2240
Electric(al)—
current, soil sterilization by, 405
seed treatment, 2571
vibrators for pollination, 2718e
Electricity, horticultural uses of, 68s
Electronic leaf for mist propagation, 2142
Electronic seed counter, 2146o
Electrostatic fields, plant growth stimulated by, 2118
Eleocharis dulcis, 1543
Eleocharis plantaginea, 1544
Eleusine indica, 1353, 2488
Elissarrhena spp., alkaloids, 1672i
Elm, defoliation by sprays, 1754
Elm, herbicide responses, 358
Elsinoë—
ampelina, 2381, 2382, 3511, 3512
corni, 3977
veneta, 272, 2376
Embryo—*see* Seed
Emmalocera depressella, 1950
Empoasca fabae, 3795j
Empoasca solana, 451
Enarmonia—
nigricana, 3526
pomonella—*see* Codling moth
woeberiana, 3905, 3906
Encyclopaedia of coffee terms, 3196
Encyclopaedia of plant physiology, 3197, 3198
Endive—
composition, 12
diseases, fungus, 2644
growth substance responses, 401
nutrition, 1375, 2125
planting, 3729
weed control, 380
Endosperm—*see* Seed
Endothia parasitica—*see* Chestnut diseases, fungus
Endria inimica, 715
Engineering—*see also* Horticultural—Instns, agric., int. Directory, 2002
England—*see under* Great Britain
Entomologia experimentalis et applicata, a new periodical, 3224
Entomological Soc. Ontario, A.R., 2058f
Entomology, annual review of, 337y, 3216
Environment, controlled—*see* Apparatus *and under specific factors, e.g.* Light, Temperature
Enzyme(s)—
activity—
blackening and browning of tissues due to, 1862
changes during plant growth, 158
diseases affect or affected by, 428, 467, 1239, 1643, 3655, 3841
during fermentation of cacao beans, 861
flower abscission in relation to, 3817
in fruits and seeds, 433, 534x, 838, 2217, 2653, 2716s, 2716u, 2716v, 3286c, 3399, 3796d
growth substances in relation to, 1081i, 1442, 1602h, 3285j
inhibition of, 1021, 1545v, 2052, 3458e, 3561f, 3580
of mitochondria, 3285z
nutrition of plants affects, 68i, 553, 1401, 2289
photoperiodism affects, 21, 2079
resistance to pests related to, 2409
ringing affects, 16
seed treatment affects, 2126
sex of plants affects, 3101
temperature affects, 2076
water supply affects, 3237
aldolase, 838, 3176x

Enzyme(s) (*continued*)—
ascorbinoxidase, 2126, 3561f
books on, 4200f
bromelain, 1908
carbonic anhydrase, 3237
carboxylase, 838
catalase, 730, 1239, 2079, 3101, 3237, 3265, 3722, 3841
citritase, 2716s
coenzymes, 3176x
dehydrase, 2076, 3286c
dehydrogenase, 16, 21, 534x, 1533, 2653, 3851
diaphorase, 3851
esterase, 3285j
ficin, 3371
glycosidase, 861
invertase, 2079
lipase, 1546d, 1644
lipoxidase, 467
oxidase, 1021, 1987, 2071, 2218, 3285z, 3655, 3796d, 3851
pectic, 1986, 1987, 3285j, 3817
peroxidase, 2079, 2126, 2289, 3655, 3841
phenolase, 1545q, 2752
phospholipase, 534f
phosphorylase, 433, 1022
polyphenoloxidase, 584, 1862, 2126, 2289, 3237
protease, 2083
ribonuclease, 589g, 2780o
thiaminase, 3580
Eotetranychus—see also Tetranychus—
carpini borealis, 2395
lewisi, 2988, 4028
sexmaculatus, 792, 2988, 4028
tiliarum, 3988
yumensis, 792, 2988, 4028
Ephedra spp., alkaloids, 1625
Ephestia spp. in stored products, 311, 864
Epicotyl dormancy in seedlings 752, 1707
Epilachna spp., control, 3641, 3795j
Epilobium hirsutum, 2837
Epitrimerus alinae, 687
Epitrix hirtipennis, 582, 1590
Eranthemum atropurpureum, 2099
Erica spp.—
descriptions, 3996w
irrigation, 736
nutrition, 735, 737, 3913, 3978, 3979, 4174
soil heating, 726
varieties, 3978
Ericaceae, ornamental, in the U.S.A., 753n
Erioischia brassicae, 420, 1306, 1409, 1545k, 2038, 2139, 2636, 2717 l, 3653, 3723
Eriophyes—
pyri, 1263
ribis—see Phytoptus
spp., unspecified, 3009
violae, 3906
Eriosoma lanigerum—see Apple, pests, woolly aphid
Eritrea, crops, bananas, 3177k
Erwinia—
amylovora, 253, 2342, 2343, 2448h, 3561q, 3637
carotovora, 901, 3108, 3963
chrysanthemi, 686
spp., unspecified, 936, 1693
Erysimum canescens, 595
Erysiphe—
cichoracearum, 478, 513, 534r, 2579, 2639, 2753, 2763, 3674, 3856g
polygoni, 448, 1449, 2639
spp., unspecified, 663
Erythraea centaurium—see Centaurium
Erythroneura—
comes, 1283
lawsoniana, 2422
spp., on vines, 3561c
Eschscholtzia californica, 3918
Esculin, growth stimulated by, 1805
Essential oil(s)—*see also individual oil-bearing species—*
analysis, 613, 2799, 3903w
Anethum graveolens, 590
angelica, 1281
bay (*Laurus nobilis*), 2800
chenopodium, 3860
Cinnamomum spp., 649d, 2021, 2781
citrus—*see* Citrus, products
content, factors affecting, 613
coriander, 590, 2840m. 3874
cumin, 590
Cyperus scariosus, 2839m
eucalyptus, 3903k
fennel, 590
garlic, 3197
geranium (*Pelargonium* spp.), 1673c
hop, 1652, 3887, 3888
jasmine, 608
Leptospermum spp., 2021
Melissa officinalis, 3903c
Nepeta cataria, 3877
nutmeg and mace, 3858
peppermint—*see under* Mint
Pinus spp., 1626
plants and production in—
Commonwealth countries, 1611, 1672r, 2840b
France and French territories, 2841
the U.S.S.R., 2798, 2800
Yugoslavia, 606
rose, 753d, 753z, 754k, 718, 1749
Salvia officinalis, 3903c
thyme, 1607
tobacco, 2779, 3835, 3856j
vetiver, 1672k, 2840d
Ethanol in plants, determination, 2147h
Ethylene—
compounds as fumigants—*see under* Fumigation, soil
determination, 3753
emission by fruits, 1530, 3753
injury to plants, 1742
treatment for ripening fruits, 177
Eucalyptus spp.—
descriptions and uses, 1786a

Eucalyptus spp. (*continued*)—
essential oil from, 3903k
growth substance responses, 2100
mycorrhiza, 2146u
Eucommia spp., gutta-percha in, 636, 1658, 2820, 2821
Eucommia spp., propagation, 1657
Eugenia—see also Clove—*jambos*, 3971
Eugenia uvalha, 12
Eulecanium bituberculatum, 3547
Eulecanium pruinosum, 3561o
Eulia sphaleropa, 2427
Euonymus spp.—
propagation, 740, 3970
as rubber plants, 3895, 3896
seed germination, 1765
Eupatorium ageratoides, 3971
Eupatorium odoratum, 2478
Euphorbia—
fulgens, 1676, 3905, 3906
hirta, 1611
pulcherrima—see Poinsettia
spp., as weeds and their control, 3621i
Euphoria longana, 2955
Euproctis chrysorrhoea, 1306
Euproctis pseudoconspersa, 3169
Eurytoma orchidearum, 1743
Euschistus sp. on peach, 1275
Eutypa armeniacae, 271
Eutypa sp. on apricot, 3503
Euxoa messoria, 2548
Evergestis rimosalis, 3657
Exobasidium—
vaccinii, 3506
reticulatum, 4148
vexans, 1997y
Experimental design—*see* Statistical
Experimental Horticulture, a new periodical, 2056
Exports—*see under* Trade

Fabraea maculata, 1247, 3981
Fagus sylvatica, 1037
Farm accounts, preparation and interpretation, 3285 l
Fasciation in plants, 3411
Fats—*see also under* Oils—metabolism in avocado fruit—*see* Avocado fruit
Fats, metabolism in seeds, 1664, 1672v
Feijoa, growing in New Zealand, 1840j
Fennel, coriander grafted on, 3874
Fennel growing in various countries, 1611, 2798
Fenusa pusilla, 3975
Fern(s)—
growth substance responses, 1082r
propagation from spores, 753h
spray injury, 3907
Ferrisia virgata, 4176
Fertilizer(s)—*see also* Nutrition *and separate crops under* nutrition—
application in irrigation water, 57
application, machinery for, 822q, 959z, 1075
bacterial, 1386
carriers, bituminous rock, 2130
Fertilizer(s) (*continued*)—
formulations, granulated, 1377
-insecticide mixtures, 589q, 959d, 1545n
liquid, crop responses, 1130
placement for—
fruit crops, 1179
sugar cane, 4131
tea, 3158
tobacco, 552, 3802
vegetables, 1377, 1514, 2572, 2687, 2716 l, 3631, 3685
weed control affected by, 383
Festuca rubra, 3955, 3997d
Festuca spp., shoot density, 2906
Fibre(s)—
areca nut husk, 3172
development in asparagus, 2718g
extraction, 3903a, 3903 l
plants—*see also* Cycads, Hemp, Manila hemp, Ramie *and* Sisal, *and species of Abutilon, Agave, Althaea, Chamaerops, Furcraea and Yucca*—in various countries, 2839b
production and trade, 3903e
quality, factors affecting, 614
Ficus—
carica—see Fig
decora, 2849
spp.—
composition, 1843
identification, 2944i
ornamental, 1785d
propagation by cuttings, 741, 1766, 2849
variegated, stomatal transpiration in, 661
Fieberiella florii, 1316x
Fig—
by-products, 3371
climate, frost injury, 234
composition, fruit, 3371
composition, latex, 3371
diseases, fungus, 285-287
diseases, virus, 2341
economics, 3387
fruit, parthenocarpy induced in, 130
growing in various countries, 1169n, 2059
harvesting, 63, 180j, 3387
nematocide responses, 293
nutrition, 137
pests, insects, 89, 286, 311, 3540
pests, mites, 2341
propagation by cuttings, 2171
research in Algeria, 3201
soil management, general, 2188
soil management, weed control, 353
storage, 287, 311
varieties, 89, 2239b
Fiji, Dep. Agric., A.R., 2026
Fiji, weeds of, and their control, 359
Filbert—*see under* Cob nut
Finnish agricultural dictionary, 4161
Fiorinia theae, 2931
Fish, aquatic weeds controlled by, 1327
Fish poisons from plants, 3903s
Flavonoids—*see under* Pigments

Flavour in vegetables, 2534, 2716r
Flemingia congesta, 957
Flood fallowing for disease and pest control, 3034
Flooding—*see also* Soil waterlogging—plant responses to, 2448e
Flora of the Belgian Congo, 4200u
Flora of Belgium, 1015i, 4200 l
Florida—*see also under* United States—agric. Exp. Stats, A.R., 987
Flower(s)—
biology, shoot position affects, 3326
biology, tree age affects, 2175
bud dormancy, water relations affect, 3074
bud initiation and development—*see also* Photoperiodism, plant responses—19, 44, 50, 707, 1875, 2176, 2582, 2617, 2872, 2873, 2904, 3090, 3320, 3321, 3408, 3416, 3473, 3719, 3950, 3993, 4173
colour, factors affecting, 1770, 2914, 2920
crops—*see separate crops, and under* Ornamental plants
cut—
fumigation, 677
marketing, 666
packing, 1684, 3915
physiological and biochemical changes in, 723, 2859, 3917
prolonging life of, 664, 1012, 1752, 2859, 2860, 3907, 3916, 3917
storage and transport, 665, 1785 l, 3921
drop—
amino acids affect, 1573
environmental factors affecting, 1742
growth substances affect, 486, 1706, 1776, 2028, 3817
micro-climate within, 2065
physiology, protein metabolism, 3198
senescence, chemical changes associated with, 723, 3967
sex, factors affecting, 641, 1033, 1200, 1418, 2518, 2575, 2975, 3101, 3431, 3669
Fluorine and fluorides—
content of plants, 950, 1230
injury to plants, 705, 1230, 1231, 2053
methods of dispensing in greenhouses, 1081s
plant respiration affected by, 1476
Fly-ash lands, reclamation, 2529
Foliar diagnosis—*see* Leaf analysis *and also individual plants under* composition *and* nutrition
Foliar nutrition—*see* Nutrition, foliar
Foliation, delayed—*see under* Dormancy, prolonged
Folic and folinic acids in plants, 1024
Fomes lignosus, 1910
Food Agric. Organ. (F.A.O.)—
Food agric. Statist., Yearbook, 4200e
index agric. res. Instns Europe, 2001
int. Directory agric. Engng Instns, 2002
Forcing—*see also* Light *and* Photoperiodism—
fruit plants, 2027, 2259
Forcing (*continued*)—
ornamentals—
annual and herbaceous plants, 682, 3926
bulbs and tubers, 1715, 1716, 1733, 1786r, 2890, 2897, 2899, 2900, 3905, 3906, 3946, 3997g
woody plants, 1716, 1774, 3214, 3905, 3906, 3985. 3990
rhubarb, 1468
vegetables, 2515, 2641
Forecasting—*see also* Disease—
crop maturity, 2545
crop yields, 947, 3861, 4115
flowering dates, 3324, 3325
fruit size, 1108
Forestry Commission, Forest Res., A.R., 4173
Forsythia—
forcing, 2860, 3905, 3906
propagation by cuttings, 3980
ringing, 16
weed control, 2471
Fortunella spp., diseases, 765
Fragaria—see also Strawberry—
platypetala, 3421
spp., breeding for wilt resistance, 2253
spp., pests, 1316n
Frames—*see also* Glasshouses *and* Soil heating—
construction, 2516
lights, Dutch, mobile structures, 3285h
lights, mechanical raising of, 68 l
watering, 68 l
Frameworking fruit trees, 99, 2170, 3311
France—
crops, fruit, 88, 219e, 2148
crops, vegetables, 2841
fruit storage facilities, 1169d
research stations, 2841
Frankliniella cephalica, 4104
Frankiniella intonsa, 304
Fraxinus spp., herbicide responses, 358
Fraxinus spp., as rootstocks for lilac, 3987
Freesia—
cytology, 3997a
diseases, 3942
flower drop, 664
gibberellin responses, 2851
growing in Germany, 3997c
growing in Great Britain, 753c, 753k
mulching, 1714
pests, 3942
research in Holland, 1000, 3906
soil covering for, 3905
weed control, 2472, 3942
Freezing points of fruits and vegetables, 2946
French West Africa, crops, 819, 840
Friesdorf/Bad Godesberg, gärtn. Versuchsanst., A.R., 2027
Frit, glass, a source of minor elements, 499, 722, 1406, 2639, 3107, 3635, 3721
Fritillaria spp., alkaloids, 2839w
Fritillaria spp., physiology, 703

Frost—
damage—*see also* Apple, Cherry, Citrus, Olive, Peach, Pear *and* Vine *under* climate, *and* Temperature, low—
assessing risk of, 2319
to deciduous fruit, 234, 1316k, 2316, 3562g
detection by aerial photography, 65
determination by X-rays, 2978
fungicides aid recovery from, 3552
spray injury accentuated by, 2318
to tropical and subtropical crops, 3156, 3809, 4092
flower sex affected by, 2975
protection—
by covering plants, 2322, 2449h, 4017
by earthing up trees and bushes, 2324, 4017
by fans, 337a, 2977, 4045h
by heaters, 337a, 1222
by irrigation, furrow, 4017
by irrigation, sprinkler, 235, 337b, 1222, 1316p, 1317i, 2133, 2320, 2321, 2448k, 2448u, 3763
reviews on, 70, 2319, 3561d, 3562o
by stem whitewashing, 1225
resistance—
climatic factors affecting, 773, 2265, 3156
cultural and nutritional factors affecting, 674, 943, 1127, 1133, 1223, 3562g
dormancy in relation to, 1111
genetical aspects, 77, 2667
morphological and anatomical aspects, 234, 1686, 4146
physiological and biochemical aspects, 1030, 1224, 1686, 2976, 3235, 3332, 3473, 3562p
rootstocks affect, 719, 1797, 2323, 3672
seasonal fluctuations in, 3472
tests for, 27, 773, 1192, 2323, 2976, 3302, 3303, 4018
Fruit(s)—*see also individual fruits*—
Annual, The, 2050
composition and food value, 46, 2717r, 3407
composition, non-volatile acids, 1150
cracking, 233, 535r, 775, 2693, 2718m, 3027r, 3287, 3331
dried, production and trade, 2050
drop—*see also* Apple fruit—
in currants, 183
growth substances control—*see* Growth-substances
in lupins, 7541
in nuts, 216
in stone fruits, 2238d
flies—*see also separate species*—
control by fumigation of fruits—*see* Fumigation
control, with insecticides and baits, 337w, 789, 2413-2415, 3535, 3680
latent toxicity of insecticides towards, 3534
freezing points, 2946
grafting, 1821
marketing—*see* Marketing
moth, oriental (*Cydia molesta*), 303, 310, 2305, 2425, 2443, 2448o, 3544, 3561p
Fruit(s) (*continued*)—
physiology, protein metabolism, 3198
ripening—
chemical changes associated with, 1023
disease-induced emanation hastens, 256
reviews on, 68d, 70, 4172
treatments to hasten or delay, 2222
set—*see under* Growth-substances
storage—*see under* Storage
thinning—*see also* Growth substances—with DNOC, 2045
tissue culture, 3244
transport, 163, 3285v
trees and plants—*see also* Orchard—
breeding, 70, 76
bud burst, factors affecting, 3353
climate, winter hardiness and injury, 3473
diseases, a book on, 3188
diseases, root, 1316r
flower bud formation—*see under* Flower bud
flowering date prediction, 3324, 3325
flowering, physiology of, 1169j
growing—
books on, 3183
in France, 2841
in the U.S.S.R., 3291
survey methods, 3288
grubbing, 1169m
nutrition—
general, 70, 970, 1124, 3401c, 4172
minor elements, 337c
under grass, 1121
pests, a book on, 3188
propagation methods, 1676, 2238y, 3400r
research in—
Australia, 1003, 2150
Belgium, 993, 2149
Great Britain, 1007, 4190
Holland, 1000, 1083, 1084
India, 2047
New Zealand, 180d, 2040
Spain, 2030
the U.S.S.R., 1169u
root growth, 120
in school gardens, 1170m
soil requirements, 180x
varieties—
collections or trials in—
Denmark, 1090
Great Britain, 1170e
Ireland, 3400j
the U.S.A., 1169a
the U.S.S.R., 3294
descriptive methods for, 3295
new, lists of, 1089
wild, in India, 3407
Yearbook, R.H.S., 69
Fuchsia, growth substance responses, 2097
Fuchsia, propagation by cuttings, 653, 654, 3971
Fucose, methylated, in plants, 180a
Fumigation—
of bulbs, corms, etc., 1735, 3942

Fumigation (*continued*)—
of flowers, cut, 677
of fruits, 68t, 799, 801, 2953, 3001, 3398, 3450, 3497
plastic covers for, 301, 1077
residue determination, 68t
a review on, 2146z
soil—*see also* Nematode Control—
with bromine compounds, 1546m
with chlorobromopropene, 1634, 2839r
with chloropicrin, 1683, 2708, 2709, 3482, 3768
with D-D, 2758, 3482, 3710. 4024
for destruction of woody plants—*see under* Trees and shrubs, destruction
equipment for, 301, 2718i
with ethylene compounds, 68t, 4024
with formaldehyde, 3710
with fumigant mixtures, 2474, 3844
under growing crops, 295, 2392, 4023
methods and equipment for, 294, 375, 662, 1075, 2709, 2718i, 3279
with methyl bromide, 375, 662, 2901, 3462, 3620
plant responses to, 578, 1683, 2703, 2704, 3462
with Sistan, 3767
with sodium dimethyl tetrahydrothiadiazine thione (Mylone), 1323, 2896, 4022
with sodium methyl dithiocarbamate (Vapam), 388, 1347, 2017, 2474, 2505, 2556, 2856, 2896, 3437
soil fungi affected by, 4022
with various compounds, 472
for virus control, 245
for weed control, 356, 375, 386, 388, 1323, 1347, 2474, 2475, 2505, 2703, 2704, 3620, 4022
of stores and stored products, 311, 1997w, 2222, 3450, 3497
of trees and plants with HCN, 2431
of trees and plants with methyl bromide, 300, 301, 1268
Fungi—*see also individual species, and plants under* diseases—
edible, 454, 2601, 2606, 2612
pest control by, 3561s
soil, control of, 2009
transmission by insects, 267
Fungicide(s)—*see also* Antibiotics—
acaricidal action of, 787, 1840t, 2395, 2990, 3519, 4032
N-acetylanthranilic acid derivatives, 535h
additives, 332, 1523
aerosols or smokes, 524, 801, 2662
aircraft application of, 833
alcohol as a, 808
aluminium compounds, 3486
ammonia, gaseous, 3398
approved, lists of, 1300, 2448i
biological balance affected by, 2395
calcium cyanamide, 2374
captan, 261, 283, 320, 447, 2362, 2437, 2438, 3554
Fungicide(s) (*continued*)—
carbamates, various, 2702, 3000, 4032
copper—
bordeaux mixture, 1523
burgundy mixture, 2438
injury to plants, 419, 895, 2379
-oil mixtures, 3030
photosynthesis reduced by, 3550
residues, 332, 832, 1311, 1316i
cycloheximide and its derivatives (Actidione, etc.), 3505
dinitrocaprylphenyl crotonate (Karathane, Iscothan, Mildex, etc.), 2361, 2362, 2380, 2764, 3493
dinitrorodanbenzol, 1257
diphenyl (biphenyl) compounds, 1825, 2983, 3561k
dodecylguanidine acetate (Cyprex), 1249, 2353-2355, 2379, 2448f
dodecylguanidine derivatives, 3488
ferbam, 2563
ferrous sulphate, 2375
flavour effects on crops, 2534
frost-damage recovery aided by, 3552
fruit—
colour affected by, 3554
maturity advanced by, 2437
quality affected by, 2229
-growth substance mixtures, 2146d
insecticidal action of, 320
-insecticide mixtures, 327, 328, 44,9 835, 1934, 2576, 2597, 3125, 3519, 3561r, 4040
lime-sulphur, 326, 330
lithium carbonate, 2563
maneb, 1317h, 2579, 3026p
mercurial, 524, 1313, 1525, 2228, 2356, 2439, 2855, 2902, 3960
mixtures, 2362, 2386, 3549, 3552, 3783
nabam, 3553
non-copper, conference on, 3549
-nutrient mixtures, 2288, 2307, 2381, 2438, 2563, 3440
oils and oil-based, 833, 1849, 3030, 3031, 3033, 4054
oxyquinoline derivatives (B.500, etc.), 701, 2856
pentachloronitrobenzene (PCNB), 2613, 2622, 3976
pentachlorophenol derivatives, 3000
phenyl phenol, 801
plant growth and metabolism affected by, 273, 276, 676, 1525, 3550, 3551, 3553
plants injured or otherwise affected by, 276, 329, 1309, 1317q, 1387, 2579, 2613, 2662, 2699, 2702, 3026p, 3048, 3118, 4054
production and trade, 2448t
pyridine compounds (Omadine, etc.), 676, 2563, 2593, 2594
quaternary ammonium compounds, 2614
rain resistance, 262
residues—*see also above*, copper—330, 499, 524, 1317h, 2699, 3561k

Fungicide(s) (*continued*)—
sodium orthophenylphenate, 802
systemic, 447, 2593, 2594, 3488, 3505
tecnazene, 2662, 3731
thiuram compounds, 2702
tin compounds, 1387, 3660
toxicity to bees, 1310
triazine compounds (Dyrene, etc.), 2563
(2: 4: 5-trichlorophenoxythio) trichloromethane, 3497
zinc frit, 1406
zineb, 787, 1317h, 1317q, 1546w, 1840t, 2990, 3048, 3549, 3551-3553
ziram, 895, 1525, 3513, 3553
Furcraea spp., as fibre plants, 615
Furfural, crop residues as sources of, 219s, 827
Fusaric acid, 2697, 2698
Fusarium—*see also* Damping-off—
annuum, 2713
avenaceum, 1475
batatis, 1608
bulbigenum—*see also* Tomato, diseases, fungus, wilt—f. *aechmeae*, 1786k, 3996p
conglutinans callistephi, 1689
culmorum, 2547, 2696, 3951
nivale, 2053, 3637, 3959, 3960
oxysporum—
f. *conglutinans*, 472, 1404, 2634
f. *cubense*, 1851, 3034, 4054-4056
f. *dianthi*, 675
f. *gladioli*, 1724, 3944
f. *lycopersici*—*see* Tomato, diseases, fungus, wilt
f. *melonis*, 3678
f. *narcissi*, 2902
f. *nicotianae*, 2758
f. *passiflorae*, 4044
f. *pisi*, 3689
form unspecified, 1545z, 1712, 2547, 2580, 2856, 2898, 3905, 3930
roseum, 675, 676
solani, 427, 2758, 3906
spp., unspecified, 1545e, 2759, 2868, 2945k, 3673, 3997b, 4045k
vasinfectum, 1538
Fusicladium—
carpophilum, 1251, 3502, 3562q
cerasi, 3562q
effusum, 2390
Fusicoccum amygdali, 2305, 2448s, 3482, 3501
Fusicoccum sp. on blueberry, 3561n

Galega officinalis, 649t
Galinsoga parviflora, 2496
Gall-forming insects and their control, 753y
Galls, insect-formed and colchicine-formed compared, 2408
Gallium in plant nutrition, 48
Gamma irradiation—
of fruits, 42, 43, 1159, 3395
nematodes controlled by, 535s
of plants, 43, 562, 2119
of seeds, 3268
Gamma irradiation (*continued*)—
sprouting of root crops prevented by, 3713
for weighing crops, 4129
Garden(s)—*see also* Botanic—-
chaparral, a book entitled, 3195
of the Côte d'Azur, 2841
design, 753m, 754d, 1786d, 3996q
history of, 650
Japanese, 651
pools, a book on, 4164
reduction of labour in, 753m
of Rome, 3997j
soil management in, 2842
Gardenia—
diseases, 3996e
flowers, cut, plastic sprays affect, 3916
flowers, initiation and development, 729
growing in the U.S.A., 1786o
nutrition, 1767, 3913
pests, 2931
Gardening Annual, Amateur, 3209
Garlic—
bulbs, medicinal principle in, 1467
bulbs, storage, 1545z
composition, 2616, 3197, 3698
diseases, 463, 1545z, 2622
growing in China, 534v
growth characteristics, 2616
oil, 3197
photoperiodic responses, 2615, 2616
planting, spacing, 3705
weed control, 1358
wild, control of, 1321
Garrya elliptica, 3970
Geese, weeds controlled by, 352, 1318
Geisenheim/Rheingau, work at, 4169, 4174
Geisha distinctissima, 3169
Geissospermum spp., alkaloids from, 1627, 2795
Gembloux, Stat. Amél. Plantes fruit. maraîch, A.R., 4175
Genista monosperma, 649u
Georgia Coll. Agric. Exp. Stats, A.R., 3226f
Geotropic responses of plants, 68j, 2885, 3243, 3320, 4273
Geranium (*Geranium* and *Pelargonium* spp.)—
a book on, 3184
diseases, bacterial, 3931
growth substance responses, 690, 1703, 2097, 2850, 2852, 3254
leaf growth, 689
nutrition, 1702, 2124
physiology—
absorption and translocation, 2124
light responses, 688
polyphenols biosynthesis, 2146q
stomatal behaviour, 25, 661
propagation by cuttings, 688, 691, 3214
storage of cuttings, 691
variegation in, 661
Gerbera—
diseases, 2856, 3905, 3930
growing in Italy, 753 l
growth substance responses, 667
nutrition, 3913

Gerbera (*continued*)—
photoperiodic responses, 2881
polyphenols synthesized in, 2146q
propagation, vegetative, 3930
research in Holland, 3906
Germany—
crops, ornamentals, 2945f
horticultural research, 2043
plant protection and quarantine, 4200c
Gesneria, light responses, 3905
Ghana, crops, cacao, 840
Ghana, Dep. Agric., A.R., 988, 4176
Gherkin—*see under* Cucumber
Gigas character of cultivated plants, 2666
Gilbert Islands, crops, 4046
Gilia capitata chamissonis, 2099
Ginger (*Zingiber officinale*)—
growing in Ceylon, 1611
planting, 1672s
technology, 2781
weed control, 389b
Ginkgo biloba—
propagation, 3997o
sex differentiation, 2936
varieties, 2945p
Girdling—*see* Ringing
Gladiolus—
a book on, 979
climate, air pollution, 705
climate, sun burn, 3763
corm(s)—
composition, 704
disinfection—*see also below*, diseases—1724, 3944
dormancy, growth substances prolong, 2944k
dormancy, tetrazolium test for, 1723
storage, 704
diseases, fungus, dry rot (*Stromatinia* (= *Sclerotinia*=*Sclerotium*) *gladioli*), 1724, 3944
diseases, fungus, fusarium rots and yellows (*Fusarium* spp.), 1724, 3944
flower burn, sprinkler irrigation to prevent, 3763
flowering, factors affecting, 2895
leaf stomata, fluorine injury in relation to, 705
nutrition, 2944m, 3943
pests, 753u
physiology, light and temperature responses, 704, 1725, 1726, 2895
research in New Zealand, 2040
soil management, fumigation, 2896
soil management, weed control, 389c, 389g, 1343, 2450, 2472, 2896
varieties, 2027
Glass—
frit—*see* Frit
plastic as a substitute for—*see* Plastic
types for frames compared, 4179
wool as a medium for boron deficiency studies, 2128
Glasshouse(s)—*see also* Frames—
climate—
air conditioning, cooling or ventilating, 68f, 68g, 658, 671
air pollution, 1683, 3232
crop responses to, 3662
temperature regulation, 2005, 3274
temperature studies, 1678, 3276, 3285k, 3662
crops—
composition compared with that of plants grown in open, 3340, 3829
economics, 59, 1675, 2136, 2137
in Great Britain, 59, 2136, 2137
pest control, 410
pollination by bees, 2519
Research Inst., A.R., 989, 4177
research by the N.I.A.E., 4186
experiments, design of, 6, 3285f
heating, 68g, 992, 1068-1071, 2146g, 3180, 3275, 3285k, 3285u, 4179
illumination, 491, 3662
insulation, 61, 3276
light distribution in, 2135
paints and wood preservatives, toxic vapours from, 2855, 3996j
soil—
management, irrigation, 476, 493
soluble salts concentration in, 1512
sterilization—*see* Soil
types—
design and construction, 3180
economic aspects, 4179
fibre glass, 2134
mobile, 995, 1714, 2146x, 3285h
plastic, 60, 61, 399, 1006, 1068, 1713, 3277
ventilation—*see above*, climate
Glechoma hederacea, 3254
Gleditschia spp., pests, 3997 l
Gleditschia triacanthos, 358
Gleichenia linearis, 2478
Gloeosporium—
ampelophagum—*see Elsinoë ampelina*
fructigenum—*see Glomerella cingulata*
limetticola, 2054, 2982
musarum, 836, 4060
olivarum, 3016
perennans—*see Neofabraea*
polystigmicolum, 270
spp., unspecified, 263, 2229, 2230, 2365, 2366, 3496
Glomerella cingulata, 2389, 3963, 3994
Glomerella vanillae, 1610
Gloriosa spp., growing under glass, 3906
Gloxinia—
light and temperature responses, 660, 1704, 2028, 3905
propagation, 653
varieties, 3996g
Glucose catabolism in capsicum fruits, 3795 l
Glycerol, uptake of antibiotics increased by, 254
Glycolic acid in plants, 2780h
Glycosides, cardiac, plant sources, 2839i
Gnaphalium spathulatum, 374

Gnomonia fructicola, 3510
Gnorimoschema absoluta, 3789
Godronia cassandrae, 3507
Gooseberry—
breeding and selection, 3207
climate, winter chilling requirements, 1110
composition, fruit, 2240
diseases, fungus, 275, 2375
flower bud development, 3416
origin, 219b
pests, aphids, 2449b
propagation, 185, 186
pruning, 3417
varieties, spineless, 1216v
Gophers—*see under* Rodents
Gorse control, 1368e
Gourd, ash (*Benincasa* sp.), 534j
Grading—*see also* Packing—fruit in various countries, 2145, 3449
Grading vegetables, 2145, 3740
Grafting—*see also* Budding *and* Frameworking *and individual plants under* propagation—
approach, 1894, 4102, 4152
on basal end of rootstock cutting, 1196
in the embryo, cotyledon or early seedling phase, 37
flower trusses onto young plants, 3205
fruit trees, a review, 180w
fruits, 1821
growth substances to aid, 3248, 3434
herbaceous scion on herbaceous stock, 425, 1439, 1441, 2669, 2846, 3874
herbaceous scion on woody stock, 532, 3744
hybrids, 3672, 3743
inter-family, 2668, 2669, 3743, 3934
leaf, excised, for virus study, 337j
monocotyledonous plants, 1609
nurse roots, 1099, 2944t, 3987
plastic materials for, 2273, 2846
root, natural, 122, 2331
solanaceous plants, 487, 488, 532, 1027, 2669, 3248, 3743, 3744
splice, improved method, 37
T method, 4101
tools and machines for, 37
union—
anatomy, 1609
nutrient transport across, 3312
scion rooting inside, 2669
wax dips for, 1195
woody scion on herbaceous stock, 2944t
Graminella nigrifrons, 715
Grape—*see* Vine
Graphiola phoenicis, 1840w
Grass(es)—*see also individual species*—
herbicide responses, 2908
for lawns—*see* Lawns
swards in orchards—*see* Cover crop plants
as weeds—*see* Weeds, control of particular types
Grasshoppers, control, 579, 1307
Gravity, plant responses to—*see under* Geotropic
Great Britain—*see also* Scotland *for departmental reports*—
agricultural research, 962
agricultural statistics, 1015k, 4200m
crops—
fruits, small, 2301k, 3402, 3458t
fruits, tree and general, 1169q, 1170e, 3458t
ornamentals, 678, 753c, 753t, 3936
vegetables, 390, 534z, 535a, 3458t, 3795i, 3796f, 3796r
glasshouse industry, 59, 2136, 2137
horticulture stations, experimental, 1001, 1015n, 1081d, 1081k, 3227
national fruit trials, 1012, 1170e
Greece, crops, vines, 2000
Grower Guide Annual, 2058i
Growth—
control, experimental, a book on, 980
-crop yield correlations, 3328
electrostatic fields stimulate, 2118
rate, light affects, 1032
rhythms or phases of plants, 90, 113, 1506, 3178b, 3814, 4051
shoot, measurement of, 2153
trunk, measurement of, 3284
-weight correlations, 3098
of witches' brooms, 2334
Growth-substance(s)—*see also* Colchicine *and* Herbicides *and under individual crops*—
abscission and—*see also* Defoliation *and* Flower drop *and below*, fruit drop—1573, 2084, 2095, 3245, 3817
absorption, factors affecting, 2451
action, mode of, 68u, 1081h, 2086, 2146f, 3683
anther development affected by, 1050
-antibiotic mixtures, 2088
antibiotics' production induced by, 3016
apical dominance reduced by, 1700
approved, lists of, 2448i
callus growth affected by, 31, 3434
cambial activity stimulated by, 3251
cell division affected by, 1050, 1113
chelating properties of, 1081h, 2146k
compounds—
adenine, 1709
auxin, 28, 116, 1033, 2274, 2831, 4172
benzoic acids, substituted, 2091
benzothiazol-2-oxyacetic acid, 2292
chlorophenoxyacetic acid (CPA, PCA, POA, etc.), 2292, 2679
p-chlorophenoxy-*iso*-butyric acid (PCIB), 2650
coconut milk, 3066
coumarin, 2656, 2660
2,4-D, 28, 782, 929, 1046, 1443, 1570, 1601h, 1805, 1957, 2087, 2094, 2101, 2293, 2451, 2591, 2874, 3016, 3065, 3066, 3249, 3250, 3285j, 3758, 3853, 4135
2,4-DB (2,4-dichlorophenoxybutyric acid), 3434, 3445
dichlorophenoxy alkanecarboxylic acids, 2086

Growth-substance(s)—compounds (*continued*)—
eosin, 2652
esculin, 1805
ethyl alcohol, 1510
eugenol, 2147f
Florigen (proprietary), 4174
gibberellin and gibberellic acid, 22, 29-31, 68b, 68e, 400-402, 437, 438, 492, 520, 667, 668, 690, 714, 825, 1049-1053, 1081p, 1082c, 1082 l, 1082r, 1112, 1113, 1440-1442, 1703, 1707, 1755, 1785y, 2074, 2088, 2097-2111, 2146d, 2146f, 2416i, 2146j, 2146m, 2146p, 2146s, 2146w, 2147a, 2147b, 2147j, 2290, 2291, 2520-2524, 2592, 2647-2649, 2677, 2678, 2718c, 2850-2854, 2859, 2875, 2885, 2915, 2916, 2938, 2972, 2973, 3137, 3251-3255, 3285m, 3286a, 3287, 3405, 3621i, 3636, 3683, 3728, 3759, 3816, 3830, 3953, 3980, 4007
hydroquinone, 3434
hydroxyisopropylmethylphenyl trimethylammonium chloride piperidine carboxylate (Amo-1618), 2877, 3927
indoleacetic acid (heteroauxin) and its derivatives—*see also above*, auxin—31, 436, 1046, 1081h, 1209, 2071, 2074, 2088, 2089, 2101, 2146k, 2147f, 2650, 2651, 2717j, 2874, 2885, 3247, 3251, 3759, 3817, 4007
indoleacetonitrile (IAN), 2101, 2717j
indolebutyric acid (IBA), 1510, 1740, 2740
indolemethanesulphonic acid (IMSA), 2090
kinetin (furfurylaminopurine), 1050, 1082r, 1370, 1709, 2109, 2647, 3724
maleic hydrazide, 231, 550, 850, 928, 1012, 1180, 1485, 1568, 1569, 1700, 1754, 1775, 2032, 2093, 2096, 2146a, 2630, 2742, 2874, 3165, 3250, 3701-3703, 3738, 3818, 3917
methoxyphenylacetic acid (MOPA), 2092
monochlorophenoxyacetic acid, 2590
naphthaleneacetamide, 2088, 2551
naphthaleneacetic acid (NAA), 521, 683, 1082r, 1995, 2084, 2101, 2146k, 2238d, 2740, 3356, 3917, 4007
naphthalene aliphatic acids, 521
naphthoxyacetic acid, 3445, 3864
naphthylmethylsulphide propionic acid (NMSP), 1046
naphthylphthalamic acid, 1511, 2885
nucleic acids, 1571
N-phenylglycines, mono-substituted, 1055
quaternary ammonium compounds, 2876, 2877, 3927
sodium naphthenate, 3628
stilbestrol, 3864
succinic acid, 2688
sugars, 3727
synergism between, 3066
2,4,5-T (trichlorophenoxyacetic acid), 1143, 1145, 1146, 2095, 2293, 2874, 2981
tetrachlorobenzoic acid, 2092
thiourea, 2654-2656
Growth-substance(s)—compounds (*continued*)—
tolylphthalamic acid, 1511
2,4,5-TP (trichlorophenoxypropionic acid), 2213, 2214, 2238e
trichlorobenzoic acid, 2092
triiodobenzoic acid (TIBA), 1044-1046, 2093, 2102, 4007
urine, cattle, 3066
zinc insulin, 3864
for cuttings—*see* Cuttings, treatment
defoliation prevented by, 774, 1006, 3203
determination by various methods, 2085, 3245, 3246, 3285m, 3286a
disease resistance affected by, 520, 521
dormancy affected by—*see* Dormancy
epiphyllous bud formation affected by, 1044
enzyme activity in relation to, 1081i, 1442, 1602h, 3285j
flower(s)—
bud induction affected by—*see also below*, photoperiodism—626, 2087, 2103-2108, 2874, 3253
cut, life prolonged by, 664, 1012, 2859
drop affected by—*see* Flower
morphology affected by, 1045
sex expression affected by—*see under* Flower
size affected by, 690, 1703, 2850, 2851, 3254
thinning—*see below*, fruit and flower
flowering advanced by, 400, 401, 492, 667, 2103, 2104, 2290, 2648, 2678, 2851, 3816
flowering delayed or inhibited by, 231, 683, 1012, 1775, 2087, 2877, 3738
fruit—
colouring affected by, 782
composition affected by, 782, 2290, 2291, 2680
cracking reduced by, 3287
drop controlled by, 128, 129, 183, 2214, 2238d, 2238e, 3065, 3066
and flower thinning by, 126, 127, 813, 1211, 2099, 2210, 2238o, 2239m, 3356, 3357
ripening affected by, 183, 213, 2045, 2214, 2292, 2293, 3445
set induced by—*see also below*, parthenocarpy—1142, 1144, 1182, 1510, 1511, 2213, 2245, 2551, 2678, 2718e, 2972
set reduced by, 3403
size affected by, 782, 1144, 1145, 1204, 1205, 1510, 1995, 2045, 2214, 2290, 2291, 2292, 2677, 3403, 3757
-fungicide mixtures, 2146d
geotropism affected by, 2885
growth reducing, 2876, 2877, 3927
inhibiting—
action of, 2094, 2116
fungicides as, 3553
in plant extracts, 116, 751, 1209, 1755, 2315, 2944s
in seeds—*see* Seed germination inhibitors
synthesis, coloured light affects, 3241

Growth-substance(s) (*continued*)—
injury to plants—*see also* Herbicides, effects —129, 1145, 3250, 3738
-insecticide mixtures, 3974
interaction between applied and endogenous, 28
leaf—
histogenesis affected by, 2091
shape affected by, 1051, 2100, 2678
size affected by, 2574, 2853
metabolism within plants, 2086, 3247
nutrient sprays applied with, 3683
nutrient status and metabolism affected by, 597, 1570, 2093, 2590, 3249, 3816, 3853, 3864
parthenocarpy induced by—*see also above*, fruit set—130, 1143, 1322, 1510, 2677, 2678, 2973, 3757, 3817
and photoperiodism—*see also above*, flower bud induction—22, 1033, 1045, 1699, 1755, 2087, 2854, 2862, 2874, 2915, 2916, 2928, 3252, 3253
pigment formation affected by, 3830
in plant organs—
bulbs and tubers, 3702, 3727
fruit, 849, 1209
fungus diseases affect, 2831
hypocotyls, 2831
leaves, 1399, 2071, 2315, 2944s
reviews on, 4172
seeds and young seedlings—*see also* Seed germination inhibitors—474, 2238 l, 2243, 2651, 2716e, 3625, 3727
shoots and buds, 116, 727, 751, 1441
various, 703, 1755, 2098, 2928, 3247, 3255
virus diseases affect, 2334
polarity affected by, 4007
pollen responses to—*see also above*, anther —1049
radioactive, 1180, 2096
residues, determination, 2444
respiration affected by, 1442, 2591, 3702
reviews on, 68u, 4172
root responses, 436, 1105, 2094, 2592
runner formation in strawberries affected by—*see* Strawberry runners
seed responses to—*see* Seed treatment
storage life—*see also above*, flowers, cut, *and* fruit ripening—of crops prolonged by, 1396, 1485, 1957, 2630, 3701-3703
sucrose accumulation in sugar cane affected by, 929, 4135
tests, 1046, 2085, 2086, 3246
tobacco axillary growth suppressed by—*see* Tobacco suckers
transfer from plant to plant, 2092
urea toxicity prevented by, 3683
vernalization affects, 2651
for virus control, 30, 514
vitamins applied with, 4007
for wound healing, 1139
Gryllotalpa gryllotalpa, 3640
Guava—
composition, fruit, 1843
Guava (*continued*)—
growth substance responses, 825
research in India, 2047
seed oil, 638
weed control, 2477
Guignardia citricarpa, 3033, 4045 l
Gums—*see also* Resins—from various plants, 649h, 649i, 3904b
Gutta-percha, plant sources and extraction, 636, 1657, 1658, 2820, 2821, 3895, 3896
Guzmania tricolor, 1745
Gymnandrosoma aurantium, 794, 1009
Gymnosporangium juniperi-virginianae, 3488
Gynandropsis pentaphylla, 1663
Gypsophila paniculata, 668, 2787
Gypsum, soil salinity corrected by, 3629

Habrochila ghesquierei, 3083, 4077, 4096
Habrochila placida, 4096
Hail—
damage to plants, 237, 1979, 2328
damage, protection against, 1206
storms, prevention of, 238, 1229, 3474
Halle-Wittenberg, Martin-Luther-Univ., Reps, 997
Hanseniella unguiculata, 3140
Hardiness—*see* Frost resistance
Hares—*see under* Rodents
Harvesting—
fruit—
bulk handling, 161, 162, 219u, 1155, 1156, 1170g, 2238r, 2238s, 2239k, 3287, 3373, 3378, 3400c, 3400 l, 4042
economics and time and motion studies, 992, 2220, 3383, 3387
injuries received during, 2223, 2224
machines for, 63, 162, 180j, 219u, 2296, 3380, 3382, 3384, 3387, 4042
a platform for, 160
nuts, machines for, 63, 3456
oil palms, economics, 896
seed crops, methods, 1604
sugar cane—*see* Sugar-cane
tobacco—*see* Tobacco
vegetables, economics, 992
vegetables, machines for, 1072, 1390, 1395, 1456, 2717w
Hawaii(an)—
agricultural statistics, 1015f
crops—
flowers, 666
fruits and nuts, 3027u, 3796g
vegetables, 534y, 2717q
Sugar Planters' Ass. and Exp. Stat. Cttee, A.R., 1929
Hawthorn—*see Crataegus*
Hazel—*see under* Cob nut
Heat—*see also* Temperature—
conductivity of fruits, 1822
injury to foliage, 225
resistance, 2076, 3804
treatment—
of bulbs to prevent flowering, 2904, 3950
against fungi, 808, 822n, 933

Heat—treatment (*continued*)—
against nematodes—*see* Nematode control
against viruses—*see* Virus control
Heating—*see* Electrical, Glasshouse *and* Soil
Hedera—*see* Ivy
Hedge(s)—*see also* Windbreaks—
growth control by maleic hydrazide, 1012, 3974
plants, fruit trees as, 1169c
plants, ornamental, 1785c, 3997i
trimming, machines and methods, 68k, 753p
Hedychium gardnerianum, 2845
Heidelberg, staatl. Lehr- u. Versuchsanst. f. Gartenb., A.R., 2028
Helicotylenchus multicinctus, 2858
Helicotylenchus nannus, 3679
Heliothis—
punctigera, 579
spp., on tobacco, 2753
virescens, 580
zea, 580
Heliothrips haemorrhoidalis, 759
Helleborus spp.—
forcing, 3905
as medicinal plants, 3903x
soil requirements, 656
varieties and hybrids, 753b, 2027
Helminthosporium—
cactivorum, 754g
ceibae, 2839z
heveae, 1921
sativum, 2909
Helopeltis spp., unspecified, 1981, 3217
Hemerocallis, seed germination, 706
Hemiberlesia lataniae, 759
Hemileia vastatrix, 879, 1881, 4077
Hemisarcoptes malus, 2403
Hemitarsonemus latus, 451
Hemp (*Cannabis sativa*)—
breeding and selection, 2058 l, 2839j
fibre quality, 2804
growth substance responses, 1053
monoecious, 1637, 2839y
nutrition, 1420, 2802, 2803
seed rates, 1637
Hemp, Manila—*see* Manila hemp
Henbane—*see Hyoscyamus*
Henequen (*Agave fourcroydes*), 3878
Henry Doubleday Res. Ass., Rep., 3795r
Herbicide(s)—*see also* Defoliation, Trees and shrubs destruction, Weed control *and individual weeds*—
absorption, translocation and metabolism, 504, 1325, 2451, 2511f, 3618, 4129
application—
with additives, 1326
aerial, 3572
droplet patterns, wind tunnel to study, 2453
droplet size, 1324
equipment, decontamination, 2488
equipment, types, 1072, 2450
as granules or pellets, 345, 351, 1341, 2471, 2473, 2490, 3567, 3574, 3576
Herbicide(s)—application (*continued*)—
in irrigation water, 3588
low volume, 2453, 3599
rates, calculation of, 344
compounds—*see also under* Growth-substance compounds—
allyl alcohol, 1347, 2474
amino triazole (ATA), 350, 365, 1339, 2469, 2511h, 3569, 3583, 3587, 3621j
approved, lists of, 1300
borate-containing, 339
sec-butyl N-(3-chlorophenyl) carbamate, 384
CDAA, 3214, 3615
CDEA, 3214
CDEC, 1362
chlordane, 376
(1-chloropropyl-2),N-(3-chlorophenyl) carbamate, 384
CIPC, 381, 1342, 1364, 2473, 2507, 3611
cyanamide compounds, 1554, 2502, 3610
2,4-D, 339, 345, 350, 389f, 504, 1367, 2452, 2470, 2488, 2502, 2511c, 3588, 3618, 3621h, 4129, 4184
dalapon, 343, 347, 348, 350, 382, 383, 1360, 1368o, 2465, 2467, 2477, 2479, 2511a, 2511b, 2511d, 3575, 3603, 3621a, 3621e
DCU, 384
2,4-DES, 339, 1337, 2468, 3571
dichlone, 389k
2,4-dichlorophenoxyethanol, 351
dimethyltetrahydrothiadiazine thione (Mylone), 1323, 2489, 3568
dinoseb (DNBP), 385, 1324, 2087, 2502
disodium methyl arsonate, 1355, 1356
diuron, 358, 389j, 2467, 3595, 3599
DNC, 1335
erbon, 2470
ethyl dipropylthiocarbamate (EPTC), 2499, 2505, 3568
fluorophenoxyacetic acids, 2487
indolemethanesulphonic acid (IMBA), 2090
maleic hydrazide (MH), 339, 2458, 3589
MCPA, 1324, 2502, 3616
MCPB, 2466, 3616
methyl bromide and related compounds—*see under* Fumigation, soil
2,methyl-4-chloro-phenoxycaproic acid, 3616
monomethyl arsonic acid (MAA), 1356
monuron, 339, 362, 374, 381, 1345, 2467, 3203
neburon, 351, 2470, 2498
NPA, 2468, 2469
oils, 339, 2456, 2507, 2509, 3566, 3608
PCP, 339, 365, 3593, 3599
potassium cyanate, 1364
propham (IPC), 2908, 3615
simazin and related compounds, 1335, 1368a, 2463, 2470, 2498, 2499, 2501, 2505, 3566, 3568, 3576, 3599
sodium—
chlorate, 3570

Herbicide(s)—compounds—sodium (*continued*)—
methyl dithiocarbamate (Vapam)—*see* Fumigation, soil
monochloroacetate, 2495, 2504
2,4,5-T, 1336, 2452, 3572
2,4,5-TB, 349
2,3,6-TBA, 2463, 2470, 3566
TCA, 389i, 1321, 2465, 3604
1,2,4,5-tetrachloro benzene, 3566
thiocyanates, 3573
2,4,5-TP (silvex, Kuron), 3575, 4168
tris(2,4-dichlorophenoxyethyl) phosphite (E.H.3Y9), 342
urea compounds—*see also other urea compounds above*—367
decomposition, persistence and movement in soil, 1325, 2452
effects—
on crops—
composition, 2503
injury, chemicals to prevent, 504
injury, general, 342, 363, 378, 382, 389f, 1322, 1364, 1367, 1368i, 1554, 1602u, 2452, 2462-2465, 2468-2470, 2498-2502, 2505, 2506, 2510, 3568, 3570, 3571, 3584-3588, 3604, 3607
tainting, 2507
factors affecting, 377
on fish, 389k
fungicidal, 2556
on plants, physiological, 1368g, 2009, 3203, 3569
on seeds, 2511c, 2908
weeds' susceptibility, 2450, 2504, 3568, 3621h
evaluation methods, 2511j, 2511k, 3576
radioactive, 2511f, 3618, 3621d, 4129
residues, bioassay of, 2444
reviews and general recommendations on, 379, 389b, 389g, 1368j, 2450, 2511m, 2511n, 3565, 3566, 3621c, 3621g, 3621k, 4172
Herbs, culinary—*see also* Spices *and individual plants*—in Holland, 2716d
Herbs, medicinal—*see* Medicinal plants
Heteranthera spp., control, 3574
Heterodera göttingiana, 1545u
Hevea—
bark composition, 4120
bark cracking, 960t
benthamiana, 3111
breeding and selection, 1998y, 3111, 4117
climate, lightning damage, 904
clones—*see also below*, seedlings—902, 1913-1915, 1997h, 1997m, 1998h, 3111, 3176c, 4117
composition—*see below*, leaf *and* root
diseases, fungus—
bird's eye spot (*Helminthosporium heveae*), 1921
black thread, shoot rot, stripe or leaf fall (*Phytophthora palmivora*), 3118, 3177u, 4117
mildew (*Oidium heveae*), 960p, 3118, 3178k
Hevea—diseases (*continued*)—
pink disease (*Corticium salmonicolor*), 1922, 4124
root rots (various spp.), 3117
South American leaf blight (*Dothidella ulei*), 3111, 4117
target leaf spot (*Pellicularia filamentosa*), 3111
growing—
in Africa, 1912, 4156x
in the Far East, 1909, 1998i
in South America, 3177g, 4156w
growth, juvenile forms, 3112
latex—
agglutination reactions, 1999m
bacteria in, 1999o
bacterial culture media from, 1999n
collection, aseptic, 1927
impurities, 1923, 3118
physiology, 1920, 3114, 3176x, 3271
processing, 960z, 1999e
stimulation by growth substances, 1926, 3115
leaf composition, 1997j, 3113, 4120-4123
mechanization, 959z
morphology, 902
nutrition—
analysis as a guide to—*see above*, leaf, *and below*, root—
manuring and major elements, 960f, 961f, 1917, 1918, 3176d
minor elements, 903, 1919, 3113, 4121-4123
requirements, determination of, 4119
pests, rats, 1924
physiology, light responses, 1920
planting—
material, packing and despatch of, 960y
on old rubber areas, 3117
operations, 959m
spacing, 1913, 1916
propagation—*see also below*, seed—by budding, 959m, 959s, 4117
propagation by cuttings, 3112
research—
in the Belgian Congo, 3212
in Ceylon, 1910
in Indo-China, 1911
in Indonesia, 2029
in Malaya, 1909
a review on, 4157d
root composition, 3113, 4121-4123
seed gardens, 960x, 1915, 1998x
seed, packing and despatch, 960y
seedlings, clonal, 1913, 3110
seedlings *vs.* clones, 3110
soil management—
cover cropping, 957, 1999u
intercropping, 4118
weed control, 365, 1352, 2450, 2480
species, hybrids, 3111
tapping systems, 1925, 3116
tree poisoning and grubbing, 3117
tree thinning, selective—*see above under* planting, spacing

Hevea (*continued*)—
varieties—*see above*, clones, seedlings *and* species
wound treatment, 1926
Hibiscus—
esculentus—*see* Okra
spp., ornamental—
flower pigments, 3997p
nutrition, 4168
pests, 2019
photoperiodic responses, 2927
weed control, 2477
Highway—*see* Road
Hippophaë rhamnoides, 743
Hippophaë spp., root nodules, 1059
Holland—
crops, 1216p, 2238k, 2301 l, 2543, 3936
horticultural—
engineering, 2031
guides, 2024
Res., Minist. Agric., A.R., 986
Plant Path. Serv., A.R., 1005
Holly—
a book on, 744
diseases, 746
leaf prickles, 745
nutrition, 3983
packing and marketing, 4189
pests, 747, 1756, 3975, 3984
propagation by cuttings, 1768, 2934, 3203, 3982
propagation of nursery stock in containers, 3983
research in Canada, 1006
rootstocks, 2937
species, a survey of, 2941
varieties and selection, 2944x
weed control, 2471
Hollyhock, weed control, 2469, 2475
Honey—*see* Nectar
Hong Kong Dir. Agric., A.R., 990, 3226g
Hop(s)—
Ass. Grs new Var., annu. Booklet, 619
bines as fodder, 1672u
bines, removal, 1649
classification, 2808
climate, requirements, 3881
climate, windbreaks, 1639
composition—
cone, 621, 623, 629, 630, 1082b, 1639, 1644, 1652, 1673a, 1673j, 2811, 2812, 3886-3889
plant, 629, 1643, 1644, 2811, 2813, 2814
root, 1641
cone—*see also above*, composition, *and below*, drying *and* picking—
bittering power, sulphuring affects, 632
chemistry, 630, 631, 649s, 2839s, 3885, 3887, 3888
formation, 626
moisture determination, 649j
green to dry ratio, 3884
morphology, 2808
Hop(s) (*continued*)—
diseases—
cause uncertain, 649v
fungus—
black root rot (*Phytophthora* sp.), 2815
downy mildew (*Pseudoperonospora humuli*), 618, 619, 627, 628, 1645, 3882
wilt (*Verticillium albo-atrum*), 618, 1646
virus, 625, 1642-1644, 1672j, 1673d, 2814
drying, 632, 1650, 1651, 1673o, 2816, 3890-3892, 3903g
growing in Germany, 3879
growing under glass in winter, 622
growth—*see also below*, root—
substance responses, 626
systemic insecticides affect, 3884
twining, 2809
hybrids, vegetative, 621
morphology, 620, 2808
nutrition—
foliar, 2812
manuring and major elements, 2810, 2811, 2815
minor elements, 625, 1642, 2813
pests, insects, 1647, 3883
pests, nematodes, 649v
physiology, absorption and translocation, 649p, 2811
physiology, humulone and lupulone biogenesis, 3886
picking, 623, 629, 3903g
planting, height of wirework in relation to, 623
planting, spacing, 623, 624
propagation, 622, 1640, 2810
research in Great Britain, 618
research in New Zealand, 2806, 2807
root anatomy, 3880
root growth, 1641
soil management, weed control, 1318
spray residues, 649f
taxonomy, 2808
varieties, 619, 620, 627, 1003, 1639, 1673i
Hoplocampa brevis, 2430
Hoplolaimus sp. on banana, 4057
Hoplolaimus uniformis, 3710
Hormones—*see* Growth-substances
Horse-radish—
diseases, 1403, 1479
nutrition, 1479
root regeneration, 1478
Horticultural—
Advance, a new periodical, 3223
colour charts, 2060
education Ass., A.R., 4200h
engineering, a book on, 3180
engineering in Holland, 2031
nomenclature, 2146r
plants indigenous to New Zealand, 3996y
progress in the U.S.S.R., 1
research in Holland, 986
Horticulture, a list of books on, 4200g
Hosta spp., description and culture, 1785v
House plants, containers and pots for, 2843

House plants in France, 2841
La Hulpe, Stat. provinc. Rech. sci. Vitic., A.R., 1182
Humic acid in leaves, 1082g
Humidifiers—*see also under* Mist—
  for glasshouses, 721, 1678
  nutrient leaching under, 35
  for propagation—*see also* Cuttings, mist humidification—34, 68a, 655, 1676, 1677, 2142, 3203
Humidity, relative, tables of, 3189
Hungary, crops, 1214, 2033, 2711, 3228
Hungary, fruit breeding, 70
Hyacinth—*see also* Bulbs—
  bulbs, disinfection, 699
  forcing, 1716
  pests, 699
  photoperiodic responses, 707
  weed control, 3596
Hyalopterus pruni, 3562j
Hybrid vigour in vegetables, 534n, 1545y, 1546o
Hybridization, vegetative, 534b, 535l, 621, 1027, 1545w, 2146n, 2668, 2723, 3743, 3796u, 3874
Hydnocarpus spp., seed oil, 1611
Hydrangea—
  diseases, virus, 1769
  flower colour, 1770, 3985
  flowers, cut, prolonging life of, 3917
  forcing, 660, 3905, 3906, 3985
  nutrition, 3905, 3913
  physiology, light responses, 660
  physiology, nutrient distribution and polarity, 2069
  propagation by cuttings, 1769, 3214
  taxonomy, 1785x
  varieties, 2027
Hydroecia micacea, 3883
Hydroecia xanthenes, 2542
Hydroponics—*see* Soilless culture
Hylemyia—
  antiqua—*see* Onion pests, flies
  brassicae—*see Erioischia*
  cilicrura—*see Delia*
  spp. unspecified, 1487
Hyoscyamus spp., growth substance responses, 22, 2074, 2103, 2104, 2146s
Hyoscyamus spp., light and temperature responses, 22, 1679, 2074, 2862
Hypericum spp., propagation by cuttings, 3970
Hyperomyzus lactucae, 2402
Hyptis suaveolens, 2496

Iberis amara, 1691, 1786m, 2112, 2944c
Idiarthron atrispinum, 3079
Idiocerus spp. on mango, 1897
Ilex spp.—*see also* Holly—survey of, 2941
Illinois agric. Exp. Stat., bien. Rep., 991
Illipe nuts (*Shorea* spp.), 2021, 3900
Impatiens balsamina, 692, 1690, 3285b, 3996h
Impatiens holstii, 3259
Imperata cylindrica, 1351, 2478
Imperial Coll. trop. Agric., Trinidad, A.R., 4200i
India—*see also individual states for reports*—
  agricultural and horticultural research stations, 3186
  crops—
    fruits, 958, 2239n
    various, 608, 649r, 1672r, 3903 l
    vegetables, 534k
  medicinal plants, 1673b
Indian—
  Coun. agric. Res., A.R., 3211
  Journal of Sugarcane Research and Development, a new periodical, 1014
  Tea Ass., Tocklai, A.R., 1961
Indium in plant nutrition, 48
Indo-China, Inst. Rech. Caoutch. (I.R.C.I.), A.R., 1911
Indonesia, C.P.V. Exp. Stats, A.R., 2029
Indonesia, crops, plantation, 1998i, 2780s
Industrial waste lands, reclamation, 2529
Infrared radiation—*see under* Light
Inga spp. as shade trees, 1871
Inositol in plants, 1082i
Insect—*see also* Pests—traps, 1281, 1884, 2404, 3535, 3845
Insecticidal plants—*see also* Derris *and* Pyrethrum—634, 1653-1655
Insecticide(s)—*see also under* Acaricides, Aircraft *and individual pests and hosts*—
  absorption and translocation, 3205
  activity, climate affects, 309
  additives, 1305
  aldrin, 4098
  application—*see also* Sprays—
    as aerosols, 409, 1317n, 1647, 1953, 3562s
    from aircraft, 1307
    to soil, grass cover reduces efficiency of, 3532
  subsoil, 2139
  approved, lists of, 1300, 2448i
  arsenical, 309, 1249, 1312, 2445
  BHC—*see also below*, lindane—1306, 1317n, 3692, 3846
  biological balance affected by, 1284, 1316v, 3544
  birds poisoned by, 2436
  a book on, 3194
  chlordane, 334, 376
  chlorinated hydrocarbon, 3534, 3796s
  composition of plants affected by, 1451
  DDT—
    activity and persistence, 309, 2448m
    additives for, 1305
    application methods, 1306, 4070
    insects develop resistance to, 1888, 2417
    plant growth and injury responses, 3692
    residues on crops and their analysis, 333, 334, 3562f, 4098
    residues in soil, 333, 1315, 2446, 4195
  demeton, 336, 1283, 2447, 3658, 3796w
  dichlorodiphenyl dichloroethane (DDD, TDE, etc.), 3790
  dieldrin, 1589, 3704, 4058, 4098
  0,0-diethyl-S-(4-chlorobenzyl)-thionophosphate (Eradex), 2442

Insecticide(s) (*continued*)—
di(*p*-ethylphenyl)dichloroethane (Perthane), 307
diethyl ethylthiomethyl dithiophosphate (Thimet), 1304, 3531, 3975
diethyl isopropylmethylpyrimidyl thiophosphate (Diazinon), 307, 1316a, 1546s, 4034
dimefox, 649f, 1648
dimethyl carbomethoxypropenyl phosphate (Phosdrin), 2718d
dimethyl dichlorovinyl phosphate, 1388
0,0-dimethyldithiophosphorylacetic acid derivatives, 3020
dimethyl oxobenzotriazinomethyl dithiophosphate (Guthion, etc.), 2443
0,0-dimethyl-S-[(2-isopropyl)-ethylsulphoxide]-phosphate, 2442
dimethyl trichlorohydroxyethylphosphonate (Dipterex), 789, 1389
endrin—*see also* Rodenticides—1299, 2434
enzyme activity affected by, 3561f
-fertilizer mixtures, 589q, 959d, 1545n, 4058
flavour effects on crops, 2058u, 2534, 3846
fluorine compounds, 3642
fungicides as, 320, 1980
-fungicide mixtures—*see* Fungicides
granulated, 1497, 2139, 4184
heptachlor, 305
herbicidal action, 376
insects develop resistance to, 308, 1316v, 1888, 2417
latent toxicity, 3534
lindane (gamma-BHC)—*see also above*, BHC—1998z, 3692
malathion, 335, 789, 795, 880, 1317g, 3734
plant growth and injury responses, 1309, 1980, 2410, 2441, 2857, 3692, 3693, 3884
plant sources of—*see* Insecticidal
production and trade, 2448t
pyrethrins-piperonyl butoxide, 2598, 3562s
pyrethrum, 864, 1528
residues on crops and their analysis, 333-336, 513, 2051, 3019, 3704, 3796s, 3796w, 4098
reviews on, 337z
ryania, 327, 2422, 2423
schradan, 1314, 1389
seed treatment with—*see* Seed
Shell W.L.-1650, 3789
soil insects affected by, 2410
systemic—*see also* Acaricides *and individual insecticides*—450, 1756, 2009, 2051, 2440, 2442, 3273, 3531, 3642, 3884, 3975
tests, 3181
toxaphene, 3643
toxicity to bees—*see* Bees
toxicity to man and precautions in using, 1316v, 2009, 2442, 3562h
Institut(e)(o)—*see also place names*—
agric. Engng, nat., Wrest Park, A.R., 1002
Encouragement Rech. sci. Ind. Agric. (I.R.S.I.A.), Brussels, A.R., 993
nac. Invest. agron., Madrid, A.R., 2030
Institut(e)(o) (*continued*)—
nat. Étude agron. Congo belge (I.N.É.A.C.), work at, 2058j, 3212
Rech. Caoutch. Indochine (I.R.C.I.), A.R., 1911
Rech. Huiles Oléag. (I.R.H.O.), Paris, A.R., 4178
Interstocks—*see also* Apple *and* Pear—physiological effects of, 2077
Iowa St. Coll. Div. Agric., A.R., 2032
Ipecacuanha—*see Cephaelis*
Ipomoea—
caerulea, 1705
pulchella, 23
purpurea, 2131
spp. as weeds, 2483
Iran, crops, 589a
Ireland—
Northern, agricultural statistics, 4200m
Republic of, fruit growing, 3400j
Republic of, Minist. Agric., A.R., 4200t
Iridomyrmex humilis, 3528
Iris—*see also* Bulbs—
bulb curing, disinfection and storage, 709, 1715
diseases, 709, 1785b, 2898
essential oil from, 2798
flower storage, 1785 l
forcing, 1715
leaf growth measurement, 708
planting time, 698
seed germination, 4174
soil management, mulching, 53
Iron—
application, foliar, 137, 223, 440, 2309, 2950, 3463
application by injection, 2309
cell division in relation to, 51, 441
content of plants, factors affecting, 1375, 1496, 2924, 4069, 4089
deficiency, flowering affected by, 50
deficiency, metabolic effects of, 455, 456
determination, 68c, 1082j, 1231, 3233
interrelationships with other elements, 439, 440, 1789, 2731, 3076, 3113, 3262, 3470, 3687
nutrition—
of fruit and plantation crops, evergreen—*see also* Citrus nutrition—757, 1011, 2950, 3107, 3218
of fruit trees, deciduous—*see also* Apple *and* Pear *under* nutrition—137, 3463
of ornamentals, 722, 1767, 2125, 2864, 3905, 3907
of tobacco, 722, 2125, 2755
of vegetables, 440, 441, 455, 456, 535m, 2121, 2125, 3261, 3262
virus diseases in relation to, 248, 2755
radioactive, 51, 440, 2121, 2950, 3262, 3312, 4013
sources—
chelates, 46, 137, 223, 440, 504, 534q, 757, 771, 823b, 1084, 1767, 2125, 2309, 2949, 2950, 3261, 3463-3465, 4013

Iron—sources (*continued*)—
frit, 722
sulphates, 3463
tartrate, 2309
various, 3107
Irradiation—*see under* Cathode, Gamma, Light, Radiation, Ultrasonic *and* X-ray
Irregular bearing—*see* Biennial or irregular
Irrigation—*see also* Soil moisture *and* Water—
a book on, 56
canals, weed control in—*see under* Weed control of particular types, aquatic
of crops—*see also individual crops under* soil management—
fruit and nut trees, deciduous, 145, 146, 180u, 1116, 2023, 2191-2194, 2313, 3355
fruit and plantation, evergreen—*see also* Citrus, Coffee *and* Sugar-cane—803, 948, 949, 985, 4112
ornamentals, 736
tobacco—*see* Tobacco
vegetables—*see also* Tomato—413, 476, 1380, 1421, 1422, 1463, 1537, 2133, 2638, 3795s
disease incidence and resistance in relation to, 517
economics, 3795s
equipment and structures—*see also below*, methods—
hydraulic drill for subsoil, 1075
precision, for experimental purposes, 1316h
research in Great Britain, 4186
for sprinklers, 1067, 1222
fertilizer application with, 57
for frost protection—*see* Frost protection
in glasshouses and frames, 476, 493
of lawns and sports turf, 2484
methods—*see also above*, equipment—
general, 2133
mist—*see* Humidifiers
for soil conservation, 1564
sprinkler, 57, 736, 1064, 1081z, 1998m, 3355, 4156u
sub-, 653, 654, 2848, 3761, 3910, 4179
trickle, 1000
needs, determination of—*see also* Soil moisture—146, 476, 493, 509, 547, 875, 960b, 1065, 1082h, 1082v, 3443, 3762, 4016
soil temperature affected by, 2257
water, composition, 949, 2313
water, movement in the soil, 779
Isariopsis griseola, 3690
Israel—
Crocus spp. in, 753q
crops, citrus, 1840o
horticultural research, 2018
Italy—
crops—*see also* Vine growing—
fruit, 88, 189, 190, 1088, 1170n, 1216h, 1787, 2010, 2148, 2239c, 2301f, 3293, 3401k, 4045p
nuts, 217, 219z, 220e, 1088, 1216u, 2301a, 2301s, 3459a
Italy—crops (*continued*)—
ornamentals, 753a, 753x, 2945a
vegetables, 1545 l, 2538, 2539, 2716o, 3742
plant breeding, 2058 l
Ivy—
destruction of undesirable, 1368n
growth substance responses, 2938, 3974
herbicide injury, 1322, 2470
juvenility induced in adult, 2938
nutrition, foliar, 45
varieties, 4175
weed control, 2470

Jackfruit (*Artocarpus* spp.)—
fruit composition, 1843
propagation, 2047
selection, 1994
Jamaica—
Banana Bd Res. Dep., A.R., 3028
crops, 840, 1851
Dep. Agric., A.R. and Investigations, 1015g, 4180
Japan, crops, 394, 3936
Japan, garden design, 651
Japanese beetle (*Popillia japonica*), 2910
Japanese dwarfed trees, 3996a
Jupyx spp. on sugar cane, 3140
Jasmine growing in India, 608
Jasmine propagation, vegetative, 3986
Jatropha curcas, 594
Jatropha gossypifolia, 1580
Jersey exp. Stat., Howard Davis Fm, Trinity, A.R., 994, 2034
John Innes hort. Instn, A.R., 4181
Jordan agric. Res. Serv., A.R., 2035
Juniperus spp.—
growth substance responses, 3974
light responses, 2928
propagation by cuttings, 3971
soil requirements, 656
weed control, 357, 358, 2470
Jute, substitute fibres, 3213
Juvenility in plants, 117, 2147c, 2163, 2175, 2181, 2238z, 2938, 2970, 3012, 3112

Kaki (*Diospyros kaki*)—*see* Persimmon
Kalanchoë spp. (mainly *K. blossfeldiana*)—
flower morphology, 1045
flowering, nutrition affects, 44
growth substance responses, 1045, 2916
physiology—
carbon dioxide fixation, 1785q
photoperiodic responses, 1679, 1785q, 2078, 2916, 2917, 3964
polyphenol biosynthesis, 2146q
propagation, 653, 3964
seed germination, 2917
Kale, weed control, 2491
Kalmia growing in the U.S.A., 753n
Kansas agric. Exp. Stat., bien. Rep., 3226h

Kapok—
breeding, 3903i
diseases, 2839z
production and trade, 3903e
varieties, 2840h
Kenya Dep. Agric., A.R., 995, 1015h, 4182, 4200k
Kesteren, St. hort. adv. Serv., Holland, A.R., 1083
Kiev Univ., botanic garden, 1016
Kimberley Res. Stat., W. Aust., Progr. Rep., 4183
Kohl-rabi—
air pollution, 3232
composition, cellulose, 2536
physiology, light and temperature responses, 1417, 1480, 2512
propagation, vegetative, 1400
seedlings, production, 1480, 2512
soil heating, 2515
soil management, irrigation, 1380
varieties, 1480
Kok-saghyz—
growing in various countries, 1659
latex formation, 3176x
radiation responses, 1041
seed treatment, 1672z
Kola—*see Cola*
Korea, fruit growing, 2239j
Kotochalia junodi, 2836

Labour—
efficiency—*see also* Economics—in horticulture, 72, 393, 992, 998, 1675, 2146y, 2220, 3285y, 4179
requirements in gardens, 753m
requirements in viticulture, 1184
transport, machines for, 1073
Laburnum alpinum, 2786
Laburnum flower drop, 664
Lachnosterna consanguinea, 3142
Lactose in plants, 4155
Ladders for orchard work, 160
Lagerstroemia indica, 663
Lalang grass, 1351, 2478
Lalbagh botanical gardens, Bangalore, 2944n
Lamium amplexicaula, 371
Land cress (*Barbarea verna*), culture, 2643
Laphygma frugiperda, 3961
Lapsana communis, 2107
Larkspur, growth substance responses, 667
Larkspur, weed control, 356
Lasiandra macrantha, 3971
Lasioderma serricorne, 864
Laspeyresia—see also Cydia—caryana, 312, 1291
Laspeyresia molesta—see Fruit moth, oriental
Latvia, medicinal plants in, 595
Laurel, bay, pruning, 2800
Laurel, seed germination, 748
Lausanne Stats féd. Essais agric., A.R., 2036
Lavender growing in the U.S.S.R., 2798
Lavender, oil yields, 607
Lawns and sports turf—
construction or re-establishment, 662, 2842, 2907, 2945t, 3996i
diseases, 1738, 2053, 2909, 3637, 3951, 3954-3960
grasses—*see also Cynodon, Festuca and Zoysia*—
Dichondra sp., 374
seed—
quality and production, 38, 3997d
sowing rate, 1736
treatments, 3951
shoot density, 2906
in the U.S.A., 713
growth, gibberellin affects, 714, 2097, 3953
growth, maleic hydrazide retards, 339, 1012
management—
maintenance, 2484, 2842, 2945t
mulching, 53
nutrition, 1737, 3952, 3957
preventing grass spread into adjoining land, 3603
weed and moss control, 339, 340, 342, 371-376, 1355, 1356, 2450, 2484-2488, 2511i, 3564, 3602, 4195
pests—
beetle grubs, 1739, 2910
earthworms, 3957
general, 3961
leafhoppers, 715
nematodes, 2532
putting greens, soil requirements, 3996x
Layering—*see also* Marcotting—
small fruits, 186
tea, 1964
vines, 3458b
Lead toxicity, 984
Leaf(ves)—
abscission—*see also* Defoliation—2084, 2095, 2943, 3203, 3245
ageing, 2083, 3530
analysis—
bark analysis compared with, 4120
figures—
adjustment for moisture, etc., 3135
interpretation of, 847, 890, 959f, 4119
variations due to season, 2199, 2200, 4039, 4087
variations due to various factors, 1873, 2199, 2284, 3100, 3237, 4120, 4122
methods, 1062, 1081v, 1873
sampling for, 1873, 2283, 3341, 3413, 4123
anatomy, mist sprays affect, 35
area, estimation, 7, 708, 2154, 3285x, 3813
area, expansion of, 689, 708, 2326, 2574
characters, biometrical study of, 1216c, 1216e
cuttings—*see* Cuttings
growth substance responses—*see* Growth-substances
imprints, autoradiography of, 1019, 2072
insecticide uptake by, 3205
nitrogen metabolism in, 3198
nutrient absorption by—*see under* Nutrition, foliar

Leaf(ves) (*continued*)—
nutrient excretion or leaching, 35, 507, 3340
punch for sampling, 337o
shape, factors affecting, 1034, 1051, 1705, 2100, 2678
size, factors affecting, 1051, 2678, 2853, 3815
starch formation in, 1786p
temperature, 721, 1598
tissue culture, 33
water relations, 1035, 2082
Leafhoppers as virus vectors, 1316x, 2628
Lecanium corni, 2401
Leek—
diseases, fungus, 534p, 3208
photoperiodic responses, 2615
seed germination, 3706
seed treatment, 1384, 3208
soil management, irrigation, 1380
soil management, weed control, 2495, 2504, 3571, 3605
Legumes—*see also individual crops*—seed germination, 1081n
Legumes, seed inoculants, 38
Lemon—*see under* Citrus
Lentil, root growth, 436
Leonurus sibiricus, 2845
Lepidosaphes ulmi, 1757
Lepidosaphes yanagicola, 1757
Lepiota morgani, 3997k
Leptomastidea abnormis, 2987
Leptospermum citratum, 2021
Leptosphaeria coniothyrium, 3908
Lettuce—
bolting, 2648
breeding and selection, 2716y, 2718k
broomrape on, 386
climate, air pollution damage, 3232
composition, leaf, 404, 477, 2525, 2661, 3634
composition, seed, 474, 2653, 2660, 2716e
diseases—
fungus—
big vein (*Olpidium brassicae*), 3732
downy mildew (*Bremia lactucae*), 2053, 2718k
grey mould (*Botrytis cinerea*), 1492, 2662, 3731
Marssonina panattoniana, 1493, 3795t
powdery mildew (*Erysiphe cichoracearum*), 478
general, 2716h
resistance, 478, 2718k
virus, mosaic, 1491, 3795h
growing under glass, 399, 2516, 2718 l
growing in the U.S.A., 3795a
growth—
substances in, 474, 2651, 2716e
substance responses, 401, 2111, 2521, 2521, 2523, 2647-2650, 2652, 2654-2656, 2660, 2718c, 3728
vitamins affect, 2655
harvesting, 3735
herbicide responses, 384
nutrition—
foliar, 2122
Lettuce—nutrition (*continued*)—
manuring and major elements, 477, 1375, 2122, 2661, 3632, 3730
minor elements, 404, 3632, 3634, 3652, 3796n
sodium and salt injury, 1512, 3630, 3796y
pests—
insects, 1494, 3734
nematodes, 405, 408, 3733
in New Zealand, 2716h
physiology—
enzyme activity, 534x, 1021, 2653, 3796d
photoperiodic and other light responses, 1490, 2028, 2512, 2647, 2649, 2652, 3724
respiration, 534x, 2657, 2659
of seed germination—*see below*, seed
temperature responses, 2076, 2657, 2658
water relations, 476
planting, 3729
pollination, 2645
research in Great Britain, 1001
seed—
composition, 2653, 2659, 3727
germination—
cell division during, 1545j
factors affecting, 475, 1490, 2115, 2646, 2647, 2649, 2658, 2660, 2718c, 3232, 3625, 3626, 3724-3726
physiology and biochemistry of, 474, 534x, 1021, 1546d, 2653, 2660
respiration during, 2657, 2659
growth substances in, 474, 2716e
storage, 1489, 3624
treatments, various, 396, 1382, 1384, 1385, 2525, 2647, 2649, 2650-2652, 2654-2656, 2718b, 2718c
virus-free, 1491
soil management—
irrigation, 476
mulching, 2530
soil heating, 1488, 2515
weed control, 342, 380, 384, 386, 397, 2505, 3564, 3568
spray residues, 3643, 3796w
storage and transport, 3735
varieties in subtropical countries, 3795a
varieties in temperate countries, 2718j, 3215
Leucaspis riccae, 3027o
Leucinodes orbonalis, 1541
Leucopholis irrorata, 3144
Leucoptera spp. on coffee, 1885, 4077
Libocedrus chinensis, 3971
Lichens, antibiotics from, 3903m
Lichens, control, 960m
Light—*see also* Photoperiodism—
artificial—*see also* Forcing *and* Glasshouse illumination—
for cuttings, 3982
economics, 1704
horticultural uses, reviews on, 1081e
for plants, ornamentals, 659, 660, 688, 975, 1704, 1716, 1786r, 2883, 2943, 3905, 3906, 3991

Light—artificial (*continued*)—
for plants, vegetables, 491, 992, 2512, 2513, 2685, 3626, 3661, 3795k, 4179
sources of, 1371, 2513, 3661, 3795k
temperature effects of, 1372
coloured—*see also below*, infrared *and* ultraviolet—
anthocyanin formation affected by, 2147e
cuttings' responses to, 2247
eosin affects response to, 2652
filters for, 1082w
insect responses to, 3845
plant responses to, 22, 23, 534q, 1633, 1679, 1710, 2115, 2647, 2649, 2652, 3241, 3242
seed germination affected by, 475, 3577, 3724
cut flowers' life prolonged by, 2859
distribution in apple trees, 2151
fruit storage behaviour affected by, 2219
growth responses, a review, 1032
infrared and far-red—
for pest control, 1454
plant responses to, 22, 23, 1710, 2028, 2115, 2872, 2873, 2928, 3241
seed germination affected by, 1490, 2647, 3577, 3724
intensity—*see also* Shade—
chlorophyll formation in relation to, 3820
measurement, 2135, 3283
plant responses—
ornamentals, 653, 695, 1725, 2867, 2882, 2895, 3914
small fruits and vines, 202, 2266, 3203
tobacco, 3821
tropical and subtropical tree crops, 758, 889, 1920
various crops, 614, 642, 645
vegetables, 491, 1371, 1417, 2512, 2562, 3779
root growth affected by, 1759, 1760
temperature responses affected by, 2674
transport of flowering stimulus affected by, 20
within tree crowns, 2151
leaf drop affected by, 2943
natural, row orientation in relation to, 2562
reflection by aluminium foil, 3914
seed germination affected by—*see* Seed germination
sums for hops, 3881
transmission in glasshouses, 491
traps for insects, 2404
ultraviolet, plant responses, 563, 2071, 3241, 3829
ultraviolet, seed treatment with, 1672z
Lightning damage to crops, 904
Lignin content of vegetables, 2536
Lignin determination, 1082k
Ligustrum spp.—
herbicide injuries, 1322
propagation, 3980
as rootstocks for lilac, 3987
weed control, 2470
Ligustrum vulgare—see Privet
Lilac—*see also Syringa*—
buds, anatomy, 3996v
flowering, phenological data on, 1771
forcing, 664, 3905
pests, 1757
physiology, sucrose utilization, 3285r
propagation, 1677, 2939, 3987
weed control, 3591, 3592, 3905, 3906
Lilium formosanum as a commercial crop, 1728
Lily—*see also under* Bulbs—
breeding and hybridization, 1786n, 2945d
bulb—
disinfection, 711, 2901
size, plant growth affected by, 3946
storage, 1715, 2899, 3946, 4195
tissue culture, 710
climate, temperature responses, 2900
diseases, fungus, 711, 749, 2901
flower anatomy, 2945 l
forcing, 2899, 2900, 3905, 3906, 3946
nutrition, 754i
planting time, 698, 3946
pollen germination, 1049
propagation, vegetative, 710
seed germination, 3945
seed treatment, 1729
soil fumigation, 2901
varieties, 2027
water—*see* Water-lilies
weed control, 1344, 2016, 3597, 4168
Yearbook, R.H.S., 1727
Lily-of-the-valley—
flowers, cut, 2859, 3915
growing in Germany, 2945f
herbicide responses, 3571
weed control, 3905, 3906
Lime (*Citrus*)—*see under* Citrus
Lime (*Tilia*), pests, 1756, 3988
Lime (*Tilia*), propagation, 1676
Limonin from grapefruit seed, 2021
Limonium—see Statice
Linaria vulgaris, 693, 1049
Linseed growing in Ceylon, 1611
Listroderes costirostris obliquus, 2640
Listronotus oregonensis, 2628
Litchi—
drying, 1826, 3011
fruit characters, 3010, 3027h
fruit storage, 810, 2047, 3010
growth substance responses, 3008
pests, 3009
pollination, 3006
varieties, 71, 3027h, 3027t
weed control, 2477
Lixophaga diatraeae, 4156g
Loganberry—
composition, fruit, 2240
diseases, 2376, 2377, 3562b
flower bud development, 187
mulching, 53
pests, 3524
pruning and training, 2376
Long Ashton agric. hort. Res. Stat., A.R., 1015j

Lonicera spp.—
air pollution, 731
pollen germination, 1049
weed control, 2470
Loquat—
fruiting behaviour, 2182
pollination and fruit set, 1142, 3336
propagation and rootstocks,, 3319
Lotus tetragonolobus, 2786
Love-lies-bleeding (*Amaranthus caudatus*), 2862
Luddington exp. Hort. Stat., A.R. and guide, 1001
Luffa cylindrica, 1546r
Luffa spp., flower biology, 2838
Lupinus spp.—
alkaloids, 649u
pod set and drop, 754 l, 1706
seed germination, 2110
Lycoris spp., descriptions, 1785u
Lygus—
lineolaris, 303
pabulinus, 2402
spp., unspecified, 337u
Lymantria lunata, 4027

Macadamia—
growing in various countries, 3026m, 3027p
pests, 811
seed germination, 1827
weed control, 2477
Macaranga tanarius, 594
Macaulay Inst. Soil Res., A.R., 3226i
Machines and implements—*see also under* Apparatus, Fumigation, Herbicides, Sprays, Tools *and* Tractors—
for brush removal, 2511 l
for clearing tracks through sugar-cane, 3176w
for cinchona bark removal, 1673h
for coffee processing, 959o, 4099
cultivating, 147, 822q, 1074, 1169w, 3180
disbudding, for vine rootstocks, 3433
disinfection of, 3027q
grading, for—
bulbs, 2944a
fruit, 2301y, 3449
seeds, 1081f, 3682
tomatoes, 528
harvesting, for—
fruit and nuts—*see under* Harvesting
sugar cane, 1955, 1956
tea, 3166
tobacco, 1593, 3847
tung, 822q
vegetables—*see under* Harvesting
hedge trimming, 68k, 1792
hydraulic drill, 1075
for mulching, 2138
nursery, 3278
packing, 162, 180t, 1006, 4189
planting, for—
bulbs, 2944a
sugar cane, 914
trees in nurseries, 3278
vegetables, 2627
Machines and implements (*continued*)—
for pollinating vines, 3444
pruning—*see* Pruning, mechanized
pump for circulating heat, 1070
for ringing trees, 389e
seed drill, 2637
soil compaction by, 1556, 4179
for sugar cane—*see* Sugar-cane *under* harvesting *and* machinery
for threshing, husking or hulling seed—*see also above*, grading—2599, 2717w
for transporting labour while working, 1073
for tree crops, 1169i
for tropical crops, 1997q
for vineyards, 219r
for washing vegetables, 3712
for weed control—*see* Weed control methods
Maclura sp., nutrition, 2130
Macrosiphum—
pisi, 2596
rosae, 3642
spp., unspecified, 1304, 2440
Macrosporium parasiticum, 534p
Macrosteles fascifrons, 715, 2628
Madras agric. Dep., Administ. A.R., 996
Magicicada septendecim, 1279, 2412
Magnesium—
absorption, 1122, 2121
application, foliar, 224, 1219, 1220, 2310, 3776
content of plants, factors affecting, 2624, 4089
content of plants, seasonal variations in, 3468, 4087
deficiency, calcium oxalate crystals affected by, 3264
deficiency, rootstock affects, 3469
determination, 68m, 1060, 1082m, 1873, 1997j, 3233, 3285a
interrelationships with other elements—*see also* Potassium, nutrition—422, 557, 890, 891, 1131, 1199, 1515, 1919, 1976, 2127, 2196, 2731, 2734, 3470, 4011, 4089
nutrition—*see also* Apple, Citrus, Tobacco, Tomato *and* Vine *under* nutrition—
bacterial diseases affected by, 3482
a book on, 4158
of fruit and nut crops, deciduous, 820, 3482
of fruit and plantation crops, evergreen, 890, 892, 893, 903, 959r, 1011, 1845, 1879, 1919, 1976, 1998e, 3014, 3015, 3091, 4089, 4110
of hemp, 1420
of hops, 1642, 2807
mulching in relation to, 1122, 4089
of ornamentals, 2028, 2864, 4195
of small fruits, 3424
of vegetables, 422, 1420, 2121, 2588, 3632
radioactive, 2121
seed germination promoted by, 387
Magnolia—
flower initiation and development, 729
propagation, 754f, 3970-3972
species, varieties and hybrids, 754f, 3997o

Mahonia×*Berberis* hybrids, 2945s
Malachite green for virus control, 574
Malacosoma americana, 3562 l
Malacosoma neustria, 1306
Malaya, crops, plantation, 1661, 1909, 1997p
Malonic acid in plants, 2695
Malpighia punicifolia, 954, 1989, 2021, 3177w
Malus spp.—*see also* Apple—
  hardiness, 3303
  hybrids as source of fruit for processing, 3401a
  nutrition, 2198
  pests, 1756
  polyphenol biosynthesis, 2146q
Mandarin—*see under* Citrus
Manganese—
  absorption and translocation, 2121
  application, foliar, 137, 2121, 2624, 2813, 3438
  determination, 68c, 1081w, 1997j, 3233
  interrelationships with other elements, 439, 440, 510, 557, 1788, 1789, 1919, 2203, 2588, 2731, 2734, 2807, 3076, 4011
  nutrition—*for separate crops see each under* nutrition—
    of fruit and nut trees, deciduous, 137, 2203, 2204
    of fruit and plantation crops, evergreen, 1788, 1789, 1802, 1899, 1919, 4011
    of hops, 2807, 2813
    of ornamentals, 2864, 3907
    resistance to fungus disease affected by, 1899
    of small fruits, 2301t, 2311, 3413
    of tobacco—*see* Tobacco
    of vegetables—*see also* Beans (*Phaseolus*) *and* Tomato—2624, 2633, 3634, 3635, 4195
    virus diseases affect, 248
    vitamin C content affected by, 1376, 3634
  radioactive, 2121, 3312
  seeds treated with, 2126
  sources, chelates, 137
  sources compared, 3635
  toxicity, 510, 1082a, 2691, 3687
Mangifera odorata, 3088
Mango—
  a book on, 2004
  breeding and selection, 3177z
  composition, fruit, 3095
  diseases—
    fungus, anthracnose (*Glomerella cingulata*), 3093
    fungus, powdery mildew (*Oidium* sp.), 4100
    non-parasitic, 1998w, 3092
  flower bud initiation and development, 3090
  flower fertility, 4103
  fruit—*see also above*, composition, *and below*, storage—
    fumigation, 2953
    ripening, ripe mangoes hasten, 3096
    ripening, tests for, 3095, 3176u
  fruiting, biennial, 3090
  fruiting, off-season, 1896
Mango (*continued*)—
  growing in the U.S.A., 884
  nutrition, 3091
  pests—
    control, general, 3178 l
    hopper (*Idiocerus* spp.), 1897
    mealybug (*Drosicha mangiferae*), 3094
    thrips, 4104
  pollination, 4100, 4104
  polyembryony, 3088
  propagation—
    by budding and grafting, 885, 1894, 1895, 4101, 4102
    by marcots, 886
    topworking, 1895, 3089
  rejuvenation of old trees, 3089
  research in India, 2047
  research in the U.S.A., 4100
  rootstocks, 1893
  sap, dermatitis caused by, 4105
  storage, 3177e, 3177f
  varieties, 1999i, 3088, 4103
Manila hemp—
  breeding, 1638
  fibre extraction, 3903a
  growing in Malaya, 1672y
  varieties, 2839g
Manna, sources of Persian, 2840a
Manuals and other books—*see also* Reviews—on—
  agriculture and horticulture, a list of, 4200g
  azaleas, 4160
  biological data, 2013
  cacti, 3182
  chrysanthemums, 976, 3187
  citrus, 969, 1807
  dahlias, 979
  diseases—
    of citrus, 1807
    and their control in general, 1217
    of fruit, 3188
    of ornamentals, 3193
  enzymes, 4200f
  fruit growing, 3183
  fruit tree manuring, 970
  garden pools, 4164
  gladioli, 979
  holly, 744
  hops, 3879
  horticultural engineering, 3180
  insecticides, 3194
  insects, beneficial, 4162
  magnesium as a plant nutrient, 4158
  mangoes, 2004
  medicinal plants, 2014, 3199
  ornamental climbing plants, 974
  ornamental trees and shrubs, 971
  peaches, 4167
  pears, 2010
  pelargoniums and geraniums, 3184
  pests—
    and their control in general, 1217
    of fruit, 3188
    of ornamentals, 3193

Manuals and other books on (*continued*)—
plantation crops, 3183
propagation of horticultural plants, 967, 2003
quinones, naturally occurring, 4165
raspberries, 972
saintpaulias, 3190
soilless culture, 3179
vegetable growing, 3796i
viticulture and vine varieties, 2000
weed control, 2450
weeds generally, 4163
Marasmius—
oreades, 2053, 3958
perniciosus, 857, 858, 3042
viegasii, 3081
Marcotting—
ornamentals, 1786f
plastic covers for, 886, 908, 2238y
sugar cane, 908
tropical fruit, nut and plantation trees, 886, 958, 960w, 1991, 1993
Marigold—*see also Tagetes*—
flowering, reflected light advances, 3914
nutrition, 1685
tissue culture, 1571
Marketing—*see also* Packing—
flowers—*see* Flowers, cut
fruit, 822w, 1840q, 2012, 3379, 3400p, 3415
tobacco, 1602d-1602f
vegetables, 2012, 3400p
Marrow seed, enzyme activity in, 2716s
Marssonina panattoniana, 1493, 3795t
Matricaria chamomilla, 599
Matthiola—see Stock
Mauginiella scaettae, 808
Mauritius—
crops, 2780a
Dep. Agric., A.R. and work of, 2037, 3213
Sugar Ind. Res. Inst., A.R., 4125
Mealybugs, toxic yeast associated with, 939
Medicago sativa, 2787
Medicinal plants—*see also* Alkaloids, Cortisone, Sapogenins *and entries under* Garlic *and species of Annona, Cassia, Centaurea, Centaurium, Cephaelis, Crocus, Deiandra, Digitalis, Dioscorea, Duboisia, Ecballium, Helleborus, Matricaria, Nepeta, Panax, Plantago, Rauwolfia, Securinega, Semecarpus, Strophanthus and Urginea*—
in Belgium, 993
books on, 2014, 3199
breeding, a review on, 1673f
in Ceylon, 1611
chemical research on, 649e
composition, factors affecting, 1612, 2839n
in Holland, 2716d
in India, 1673b
manna producing, 2840a
in Poland, 1612
in the U.S.S.R., 595
in Yugoslavia, 599
Mediolata spp., beneficial mites, 2395
Mediterranean fruit fly—*see Ceratitis capitata*
Medlar, flower biology, 2176
Melaleuca leucodendron, 1611
Melaleuca spp., nectar, honey spoiled by inclusion of, 3989
Melissa officinalis, 3903c
Melissopus latiferreanus, 2428
Melittomma insulare, 1008
Meloidogyne—
arenaria, 4057
hapla, 295, 1423
incognita, 111, 1423, 2533, 2705, 2780c, 2785, 2858, 3679, 4021
javanica, 111, 1423, 1588, 2705
spp., unspecified, 525, 2707, 3562k, 3638, 4056
Melolontha—see under Cockchafer
Melon (cantaloupe and musk)—*see also* Cucurbits *and* Water-melon—
composition, fruit, 1998q
composition, seed, 2716j, 3903u
diseases, fungus, fusarium wilt (*F. oxysporum*), 2580, 3678, 3795b
diseases, fungus, leaf spot (*Pleospora herbarum*), 3796 l
growing in the U.S.A., 1545f
growth substance responses, 2520
nutrition, 1379, 1421, 2527
pests, fly (*Dacus cucurbitae*), 1424, 3680
pests, nematodes, 2718i, 3638, 3679
pollination, 3664
propagation by grafting, 425
pruning, 3677
as a rootstock for cucumber, 3672
seed germination, 2580
seed oil, 2716j, 3903u
soil management—
fumigation, 2718i, 3638
irrigation, 1421
mulching, 3676
weed control, 1421
storage and transport, 411, 1425, 2581
varieties, 392, 534s, 2033, 2045, 3795b
Mentha spp.—*see* Mint
Mercury injury to plants, 2855, 3996j
Mesomorphus villiger, 1589
Metarrhizium anisopliae, 3177p, 3561s
Metasequoia glyptostroboides, 1772
Metatetranychus citri—see Citrus pests, mite, red
Metatetranychus ulmi—see Panonychus
Metaxenia in apples, 3333
Meteorology—*see also* Climate—tables, 3189
Methyl alcohol—*see under* Alcohol
Mexico, crops, 840
Michigan agric. Exp. Stat., A.R., 998, 4184
Micro-climate—*see* Climate
Millipede control, 3562i
Mimosa—see also Acacia—invisa, 2478
Mimusops hexandra, 958
Mineral nutrition—*see* Nutrition
Minnesota agric. Exp. Stat., A.R., 2058m

Minor elements—*see also separate elements, and* Chelates, Frit, Nutrition, *and crops under* nutrition—
content of plants, virus diseases affect, 2814
deficiencies, diagnosis of, 337c
deficiencies, wilting of plants increased by, 2633
enzyme activity affected by, 68i
interactions, a review on, 1082s
nitrogen metabolism in relation to, 46
in plant nutrition, 46, 68r, 68v
Mint (peppermint, spearmint and other *Mentha* spp.)—
breeding and selection, 609, 1631
composition, 611, 612
diseases, fungus, rust (*Puccinia menthae*), 2053, 3637
diseases, fungus, wilt (*Verticillium albo-atrum*), 610, 611, 1634, 2839r, 3876
growing in various countries, 1545f, 1632, 2801
leaf characters of different *Mentha* spp., 3903t
mercury paint vapours injure, 2855
nutrition, 3875
oil, essential, 609, 613, 1631, 1632, 2798, 3875, 3903c, 3903w
physiology, light responses, 1633
weed control, 2492, 3637
Mirabilis jalapa, 3241
Mississipi agric. Exp. Stat., A.R., 3214, 4185
Mist sprays—*see also* Cuttings, Humidifiers *and* Sprays—plants grown under, 1751, 2893
Mistletoe—
absorption of alkaloids from host plants, 1624
control, 1333, 1334, 2456, 2457
cultivation, 1334
Mites—*see also scientific names, and crops under pests*—
control—
chemical—*see* Acaricides
cultural, 299
by fumigation, 1268
by heat treatment, 299
fungicides affect, 296, 2395, 2403
populations, factors affecting, 299, 790, 1450, 1451, 3519, 3561 l, 3639
predacious, 3561 l
resistance to acaricides developed by, 535d, 2394, 2448v, 3520, 4030
as virus vectors, 2341
Mitochondria, plant, 10, 649a, 649b, 1545v, 3285z
Moghania spp., shade trees, 1879
Mole cricket control, 3640, 3961
Molybdenum—
determination, 1081w, 3285p
foliar application, 2121, 3438
interrelationships with other elements, 1082s, 3076, 4122
nutrition—*for individual crops see each under* nutrition—
of fruit and plantation crops, 3204, 4122
reviews on, 1082s, 1082u
of vegetables, 499, 535m, 2121, 2717u, 3652
Molybdenum (*continued*)—
radioactive, 2121, 3312
role in metabolism, 46
Momordica dioica, 2828
Monalonion dissimulatum, 1009
Monarthropalpus buxi, 3975
Monilia—see also Sclerotinia—roreri, 855, 4065
Monoploid cucumber, 3663
Monosteira unicostata, 1276, 3562e
Montbretia composition, 2944w
Morchella rotunda, 2606
Morning glory—*see Ipomoea*
Morocco, crops, 538, 1369, 3903o
Morphine biogenesis, 3867
Moss control in lawns, 2511i
Moss control on plants, 960m
Mouse—*see under* Rodents
Mulberry—
composition, leaf, 3370, 3401i
leaf, suitability for silkworm rearing, 3400a
nutrition, 2130, 2238w
salt tolerance, 2156
Mulching—
in British Columbia, 53
crops—*for individual crops see each under* mulching *or* soil management—
fruit and plantation crops, evergreen—*see also* Coffee—756, 3120
fruit trees, deciduous—*see also* Apple, Peach *and* Pear—139, 1122, 2202, 2238w
lawns, 53
ornamentals, 1714, 2863
small fruits—*see also* Strawberry—53, 1176, 3403
tobacco, 577, 1557
vegetables—*see also* Tomato—53, 398, 992, 2530, 2544, 2643, 3676
diseases affected by, 3510
materials—
coal dust, 2238w
grass or hay, 577, 1122
herbicides applied to, 1338
machinery for applying, 2138
manure, 2202
plastic, 192, 219a, 398, 756, 992, 2138, 2544, 2643, 3214, 3403, 3676, 3764
sawdust, 53, 1006, 2530, 2643, 2683, 3214, 3510, 3764
straw, 143, 2201, 3350
tannery sludge, 2717i
nematode response to, 796
nutrition in relation to, 1122, 4089
root development improved by, 1176
seed germination improved by, 3857
sod—*see under* Cover crops
soil—
characters affected by, 53, 3207
micro-organisms affected by, 1123
temperature affected by, 2257
weeds controlled by, 1338, 3621m
Musa—see also Banana *and* Manila hemp—
balbisiana, 1638
maurelii, 829

Musa (*continued*)—
spp., fibre-yielding, 1638
spp., propagation, 829
Muscari, forcing, 2897
Muscina assimilis and *M. stabulans*, 1497
Mushroom (mainly *Agaricus* (*Psalliota*) spp.)—
bed casing, 2608, 2614
cap development, 2603, 2604
cap size, factors affecting, 2608, 2612
composition, 454, 2601
composts—
disinfection, 453, 2610, 2614
heating, 2609, 2610
types, 2607, 3695
diseases, cause uncertain, 3795n
diseases, fungus, 453, 2610, 3696
extract, seed germination inhibited by, 2602
fungicides injure, 2613
growing—
labour efficiency, 992
plastics used in, 2716c
in various countries, 2607, 2717g
houses, air conditioning and ventilation, 2610, 2717c
houses, sterilization, 2614
nutrition, 2606, 2608, 2611, 3795m
pests, insects, 2610, 3795u
pests, nematodes, 535s
research, Proc. 3rd int. Conf. on, 2600
species of genera other than *Agaricus*, 2606, 2612
spray injury, 2613
storage, 2716w
tray preservation, 4179
Music, plant responses to, 1690
Mustard—
essential oil, 1611
growth substance responses, 401
nutrition, 44, 48, 3197
seed treatment, 1385, 3624
weed control, 2090
Mutations—
induced, in various plants, 681
natural in—
fruit plants, 85, 87, 828, 1216k, 2181, 3027a, 3207, 3428
sugar cane, 1999h
tobacco, 1602q, 1602r, 2726, 2780r, 3820, 3856p
vegetables, 535t
rate, radioactive nutrients in relation to, 2068
Mycorrhiza—
disease protection by, 253
of fruit plants, 119, 253
of trees, a review, 2146u
Mycosphaerella—
citrullina, 2578
horii, 4045f
musicola—*see* Banana, diseases, fungus
ribis, 273, 2375
Myelois—
ceratoniae, 3201
spp. in stored figs, 311
venipara—*see Paramyelois transitella*
Myrciaria glomerata, 12
Myrica—
nagi, 3407
spp., root nodules, 1059
spp., wax-bearing, 3904d
Myriophyllum spp., control, 345, 3214, 3574
Myristica fragrans—*see* Nutmeg
Myristica malabarica, 647
Myrtus communis, 3923
Mysore agric. Dep., A.R. and Calendar and Yearbook, 1015 l, 1015m, 2039
Myzus persicae, 337q, 534w, 1304, 2440, 2478, 2596, 2753, 2766, 3642

Naaldwijk Res. Stat., Fruit. Veg. Cult. under Glass, A.R., 1000
Najas spp., control, 3574
Naranjilla (*Solanum quitoense*), 532, 1785i
Narcissus—*see also under* Bulbs—
bulb disinfection, 699, 2902
diseases, fungus, 2902
diseases, virus, 712
forcing, 1716
pests, insects, 1005, 1731
pests, nematodes, 699, 2945e, 3947
planting time, 698
soil management, weed control, 1342, 3596
Year Book, *R.H.S.*, 1730
Nasturtium officinale—*see* Watercress
Nasturtium (*Tropaeolum*), weed control, 2468
National—
fruit trials in Britain, 1012, 1170e
Inst. agric.—
Bot., Cambridge, A.R., 534z, 3796h
Bot., Cambridge, vegetable trials, 535a, 3623
Engng, A.R., 4186
Nebraska agric. Exp. Stat., A.R., 2058n
Necrobia rufipes, 1867
Nectar—
composition, vitamin C, 11
from *Melaleuca* spp., honey spoiled by inclusion of, 3989
plants of Great Britain, 2061
secretion by plants, 2252, 2537, 3933
Nectarine—
breeding, 1170d
fruit cracks, anatomy of, 3331
soil cultivation, 3349
Nectria sp. on tea, 1999g
Neirenbergia spp., weed control, 2468
Nematode(s)—*see also individual species*—
control—
by barriers, 1813
biological, 2449c
by chloropicrin, 4114
by cover crops, 3026r
by crop rotation, 1423, 3517, 3679, 3710, 3796c, 3856o
by D-D, 292, 294, 1009, 1588, 2034, 2533, 2707, 3638, 3679, 3710, 3733, 3947, 4114
by dibromochloropropane (Nemagon, etc.), 293-295, 2767, 4023, 4114
by dichloroethane, 3796c

Nematode(s)—control (*continued*)—
by dichlorophenyl diethyl phosphorothioate, 2532
by dichlorotetrahydrothiophene-1,1-dioxide, 525
by dimethyl tetrahydrothiadiazine thione (Mylone), 2879, 4022
by electric soil heating, 405, 2393
by ethylene dibromide (EDB), 294, 1423, 1588, 2533, 2707, 3679, 3947
by fertilizers, 3675, 3796c
by hot-water treatment, 699, 2391, 2858, 2905, 3203, 3796c, 3907
by formalin, 3710
by fumigant mixtures, 3844
by fumigation of soil, general, 535g, 2392
by gamma irradiation, 535s
by hydrogenated fish oil, 1814
by insecticide mixtures, 2713
under living plants, 2532, 3675
in machines, 3027q
by methyl bromide, 292, 662, 2707, 2785, 2879, 4114
by modifying environments, 2706
by potassium thiocyanate, 3675
by sodium—
cyanide, 3638
methyldithiocarbamate (Vapam), 2879, 3733, 4114, 4174
salicylate, 3675
by various nematocides, 408, 4113
of crops—
fruits and nuts, deciduous—*see also* Strawberry pests—111, 292, 294, 1258, 1259, 3203
fruit and plantation crops, evergreen—*see also* Citrus pests—868, 1854, 2049, 4021, 4056, 4057, 4113, 4114, 4157a
ornamentals—
annuals, biennials and herbaceous, 1687, 2879, 2945e
various, 1785j, 2858
woody, 2924
various—*see also* Tobacco pests—649v, 1785j, 3904c
vegetables—*see also* Tomato pests—408, 535g, 535s, 1449, 1469, 1545u, 2533, 2713, 3638, 3675, 3733, 3796c
-free fruit clones, 1316 l
fungus infection affected by, 3997k, 4056
host nutrition relationships, 2924
mulching in relation to, 796
salt tolerance, 4021
soil sickness relationships, 1258, 1259
transmission of, 291
as virus vectors, 868
Nemophila insignis, 2115
Neofabraea perennans, 2233, 2448g, 3495, 3497
Neofabraea spp., unspecified, 264
Neomaskellia bergii, 1949
Nepeta cataria var. *citriodora*, 3877
Nephantis serinopa, 3177o
Nerine spp., culture, 2903
Nerium indicum, 594
New Guinea, British—*see* Papua and
New South Wales—*see also under* Australia—Dep. Agric., A.R., 1003
New South Wales, Dep. Agric., Insect Pest Survey, A.R., 3226j
New York St. agric. Exp. Stat., A.R., 4200n
New Zealand—
crops, fruit, deciduous, 1087, 3400d, 3400n
crops, fruit, evergreen, 1840h, 1840i, 1840j
Dep. Agric., Hort. Div., A.R., 2040
D.S.I.R., A.R., 2041
fruit research, a review, 180d
horticultural plants, indigenous, 3996y
palms, ornamental, 3996m
Plants and Gardens, a new periodical, 4197
Nezara viridula, 3795q
Niacin—*see under* Vitamin B
Nickel nutrition of plants, 48, 2289
Nickel toxicity, 625, 2814
Nicotiana—
alata, 2097
debneyi, 3234
glauca, 587, 3825
glutinosa, 3836
rustica, 13, 1028, 1029, 2526, 2743, 2744, 2748, 2780p, 3804, 3822, 3841, 3853
spp.—
alkaloids—*see also* Tobacco, composition, alkaloids—2749, 3816, 3825
collections, 1547
disease resistance, 2760
grafting, intergeneric and interspecific, 2077
growth substance responses, 2097, 3816
pollen studies, 2725
seed treatment, 544
sylvestris, 2077, 2108, 3822
tabacum—*see* Tobacco
Nicotine and nornicotine—*see also under Nicotiana* spp., alkaloids, *and under* Tobacco, composition *and* physiology—
biosynthesis, 566, 1574, 1575, 3822-3825
content of plants, factors affecting, 2736
degradation, 1576, 1602s
determination, 2780d
growth inhibition by, 1054
in plants other than *Nicotiana* spp., 598, 1624, 3934
radioactive, 2748
Nidularium innocentii, 1745
Nigeria—
Federation, Dep. agric. Res., A.R., 1004, 2058o, 4187
Northern Region, Dep. Agric., A.R., 2058p, 4200o
Western Region, Marketing Board, A.R., 4200p
Nitrogen—*see also* Ammonia *and* Urea, *and separate crops under* nutrition—
absorption, temperature affects, 3769
compounds in xylem sap, 14
content—
day-length affects, 2079
seasonal variations in, 4087

Nitrogen—content (*continued*)—
water supply affects, 3237
deficiency—*see also particular plants under* nutrition—nutrient distributio.n in plants affected by—2731
determination, 1060, 1062, 1081v, 1081y, 1873
earthworms affected by, 3957
fixation by non-legumes, 1059, 2935
foliar application of urea—*see* Urea
metabolism in plants, 46, 151, 1532, 2215, 3198, 3853
nutrition—
calcium oxalate crystals affected by, 3264
calcium in relation to, 2196
disease resistance affected by, 505, 2762, 3501
magnesium in relation to, 1515, 2196
minor elements in relation to, 557, 1788, 4122
phosphorus in relation to, 1554, 1939, 1940, 2203, 2661, 3773
potassium in relation to, 1515, 1939, 1940, 2196, 2661
radioactive carbon affects, 3271
root growth and distribution affected by, 1800
shade affects, 1973, 1974
sulphhydryl formation in relation to, 2122
virus concentration affected by, 426
radioactive, 13, 1059, 1081y, 2746
sources—*see also* Urea—
ammonium and nitrate compared, 426, 551, 555, 556, 1558, 1559, 2685, 2734, 3804
ammonium and urea compared, 1558, 1559, 1943, 1971
aqueous ammonia, 466, 1942, 4134
calcium cyanamide, 1554
guano, 4131
various, comparisons between, 506, 555, 1397, 1560, 1943, 3952
Nomenclature, botanical and horticultural, 2146r
Nornicotine—*see* Nicotine and
North of Scotland Coll. Agric., investigations at, 2042
Northern Ireland, Minist. Agric., A.R., 999, 2038
Norway, crops, vegetables, 1398
Nottingham Univ. Sch. Agric., A.R., 4194
Nucleic acid(s)—
content of chloroplasts, 589f, 1572
formaldehyde reaction with, 3856n
plant growth affected by, 1571
Nursery(ies)—
labour efficiency in, 72, 1675
machinery, 3278
research, a review, 90
soil sickness in, 291, 1005
stock—*see also individual species*—
defoliation—*see under* Defoliation
fumigation, 2431
growing in containers, 963, 2844, 3911, 3983
Nursery(ies)—stock (*continued*)—
packing, 960y, 3996z, 4173
storage, 2892, 2923, 2943, 3422
Nut(s)—*see also individual species*—growing in the U.S.S.R., 1216o
Nut(s), production and trade, 2050
Nutgrass—*see Cyperus* spp.
Nutmeg—
growing in Ceylon and India, 1611, 1672a
oil composition, 649q, 3858
propagation, vegetative, 2783
technology, 1603
Nutrient(s)—*see also* Fertilizers *and separate elements*—
absorption and translocation, 1031, 1082t, 2944m, 3263, 3269, 3286d, 3769
chelated—*see* Chelates
distribution, growth substance treatment affects, 1570
excretion by and leaching from leaves, 35, 507, 3269, 3286d, 3340
excretion by roots, 1031
soil, soil management affects, 3207
solutions—*see* Soilless culture
transfer between plants through adjacent root systems, 3266
Nutrition—
bacterial diseases affected by, 443
by bark application, 3269
of crops—*see also below*, foliar, *and separate crops under* nutrition—
fruits—*see* Fruit trees
tropical, 4119
vegetables—*see* Vegetables
enzyme activity affected by, 68i, 1401, 2289, 3265, 3722
flowering affected by, 44
foliar—
with chloride, 2067
fungicides and insecticides combined with, 2288, 3342, 3440
growth substances applied with, 2093
with minor elements—*for compounds commonly applied in this way see under separate elements*—137, 222, 226, 2121, 3342, 3442, 3718, 3793
with nitrogen compounds—*see* Nitrogen, foliar, *and* Urea
with phosphorus compounds—*see* Phosphorus application
of plants—
castor beans, 1662
deciduous fruits—*see also* Apple, Peach, Pear *and* Vine *under* nutrition—45, 137, 226, 3408
hops, 2812
ornamentals, 45, 2028
vegetables—*see also* Beans (*Phaseolus*) *and* Tomato *under* nutrition—2122, 3718, 3769, 3793
with potassic compounds—*see* Potassium application
reviews on, 3269, 3286e
root absorption affected by, 473

Nutrition—foliar (*continued*)—
spray injury, 135
spreaders aid, 1517
with vitamins, 52
by injection into plants, 2068, 2238h, 2309, 2744
pest incidence affected by, 1450
radioactive isotopes used in—*see* Radioactive
reviews on, 2146e
sex expression affected by, 3431
by vacuum infiltration, 2688
Nutritional value of crops, 454, 1998p, 2552, 2717r, 3646
Nyasaland, Dep. Agric., A.R., 1015o, 4200r
Nyasaland, Tea Res. Stats, A.R., 3148
Nysius raphanus, 3734

Oak—
cork, 3903p
leaf pigments, 2073
mycorrhiza, 2146u
Obst- und gartenbaulicher Beratungs- und Informationsdienst Weihenstephan, a new periodical, 3225
Ocimum gratissimum, 1672 l
Odontotermes badius, 3086
Oenocarpus batava, 1840z
Ogcodeia spp., glycoside contents, 2839i
Oidium heveae—*see* Hevea diseases, fungus
Oidium spp., unspecified, 4100
Oil(s)—
essential—*see* Essential
fruit (pulp or skin)—
metabolism, 4108
oil palm—*see Elaeis* palm oil
olive—*see* Olive
plants in Brazil, 637
production, trade and utilization, 637, 1672w, 2839o
seed or kernel (other than essential oils)—
almond, 638
aniseed, 591
Asclepias spp., 3897
citrus, 639, 1840f
coffee, 639
from cucurbits, 2716j, 2828, 3903u
cycad, 3904b
determination and characterization, 1673g, 2822, 2823, 3903u
from euphorbiaceous plants, 821, 2825
extraction, 2823
guava, 638
illipe (*Shorea* spp.), 2021, 3900
insecticide synergist in, 1672e
jojoba from *Simmondsia* sp., 2834
from leguminous plants, 2829
metabolism, 1672v, 1673k, 4107
nutmeg, 649q
onion, 3697
from palms—*see also* Coconut *and Elaeis* —637, 640, 1840z
papaw, 638
passion fruit, 1835
Oil(s)—seed or kernel (*continued*)—
perilla, 2830
poppy, 642, 1664, 1673k, 3899
ramie, 632
sesame, 1672e
tea, 1660
tomato, 3751
from various tropical plants, 638, 639, 1661, 1663, 2824, 2839v
Xanthium spp., 644
tuber, *Cyperus esculentus*, 2827
Okra (*Hibiscus esculentus*)—
composition, 455, 456
diseases, 1545e
growing in Brazil, 2715
nutrition, 455, 456
pollination, 2715
weed control, 380
Olea fragrans, 3971
Oleander pests, 4168
Oligonychus yothersi, 2953
Olive—
climate—
chilling requirements, 3013
frost resistance and injury, 1316w, 3027f
temperature responses, 4039
composition, fruit, 3021
composition, leaf, 3441
diseases, bacterial, tuberculosis or knot (*Pseudomonas* sp.), 814
diseases, fungus, leaf spot (*Cycloconium oleaginum*), 4040
fruit thinning, 813
growing in—
Australia, 3027g
European countries, 2841, 3026 l
North Africa, 1840g
South America, 3027d
growth phases, juvenile, 3012
growth, rejuvenation, 1840g
harvesting, mechanical, 63, 4042
nutrition, 812, 2023, 3014, 3015, 3441
oil composition, 1840z
oil extraction, 1832
pests—
birds, 815
fly (*Dacus oleae*), 789, 1831, 1841c, 3017 3019, 4041
moth (*Prays oleellus*), 3020
scale insects, 3027o
physiology, water relations, 4039
planting, transplanting mature trees, 781
pollination, 822e, 1830, 2150
propagation by cuttings, 3971, 4038
pruning, 148
research in various countries, 2030, 4193
rootstocks, 2030
seed germination, 1828
seed treatment, 1829
soil management, 812, 2188
spraying equipment, 1307
varieties in Italy, 822e, 1830, 1840b, 4045c
Olpidium brassicae, 3732
Omphalia flavida, 3078

Onion—
bolting, 1459, 2617
breeding and selection, 457, 534n, 2717a
bulb—
composition, 461, 534c, 1546a, 3697
dormancy, growth substances prolong, 3701-3703
formation, factors affecting, 460
production by seed-bearing plants, 458, 3699
storage, 42, 459, 461, 1458, 1460, 2618-2620, 3701
composition—*see above*, bulb, *and below*, leaf
cytology, 68b
diseases—
cause uncertain, tip burn, 2621
fungus—
black mould (*Aspergillus niger*), 3701
damping-off, 1009
die-back (associated with *Stemphylium* sp.), 534d
downy mildew (*Peronospora destructor*), 1546w
Rhizopus nigricans, 3701
smut (*Urocystis cepulae*), 1461, 3637
growing—
in frames, 2516
in temperate countries, 1545p
in tropical and sub-tropical countries, 458, 3699
growth substance responses, 68b, 3701-3703
harvesting, mechanical, 1072
leaf composition, 12, 1465, 2525, 3698
nutrition—
fertilizer placement, 3631
manuring and major elements, 1458, 1460, 3631, 3700
minor elements, 403, 3635
pests—
flies (*Delia* and *Eumerus* spp.), 534o, 1462, 2717n, 3526
nematodes, 3796c
thrips (*Thrips tabaci*), 1463, 1464, 2623
physiology—
light responses, 2615
protein metabolism, 3198
radioactive carbon injury, 3271
temperature responses, 2617
tissue culture, 1050
planting on ridges *vs.* beds, 2718h
planting, spacing, 1458
research in the U.S.A., 4195
seed—
oil, 3697
production, 458, 3699
sowing direct *vs.* transplanting, 2718h
sowing, time of, 459
storage, 3624
treatments, 396, 1384, 2525, 2602, 3644, 3704
sets, 459, 1459, 2617
× shallot hybrid, 462
Onion (*continued*)—
soil—
management—
irrigation, 1463
rotations, 3700
weed control, 342, 380, 389a, 1358, 1363, 1364, 2489, 2495, 2504-2506, 2508, 3568, 3571, 3605, 3609-3612
pH requirements, 3700
soilless culture, 1374
spray residues, 3643, 3704
varieties—
general, 457, 534k, 2718j, 3623
from hybrid seed, 534n, 2717a
tree, 1465
Welsh (*Allium fistulosum*), 462, 1466
wild, control, 3214
Onoclea sensibilis, 2461
Ontario, hort. Exp. Stat., Prod. Lab., bien. Rep., 3215
Onychiurus armatus, 3140
Ooencyrtus papilionis, 1949
Oospora lactis, 3787
Opatroides frater, 1589
Open-cast mining sites, utilization, 2204
Operophtera brumata, 1306, 2401
Opheusden Tree and Fruit Inst., Holland, A.R., 1083
Opuntia spp., classification, 2945g
Opuntia spp., growth substance responses, 1995
Orange—*see under* Citrus
Orbignya spp., as oil plants, 637, 640
Orchard(s)—*see also* Fruit trees—
establishment, economics, 2238j
evergreen, a book on, 3183
soil—
earthworm populations, 3401d
management—*see also under individual crops*—180q, 1121, 1169w, 2188, 2194, 2238c, 3207, 3401c
waterlogging and flooding, 2448e
survey methods, 65
Orchid(s)—*see also individual genera*—
cytology and genetics, 1785n
diseases, 2913, 2944e, 3963
flower drop, 1742
growing in the U.S.A., 2945j
growth substance responses, 1015q
pests—
insects and mites, 1743
nematodes, 1785j
snails and slugs, 1744
physiology, 717, 1741
roots, 1741, 2912
seed treatment and germination, 716, 1740, 2911
soil mixtures and other media for, 3996d
weed control, 1345
Orchidophilus spp. on orchids, 1743
Oregon agric. Exp. Stat., pear variety collection at, 1169p
Origanum sp., light responses, 1633
Origanum sp., seed production, 593
Ormosia panamensis, 2796

Ornamental plants and flower crops—*see also* House plants, Pot plants, *and separate plants*—
aquatic, a book on, 4164
climbing, 753o, 974, 1786e, 2841
coniferous—*see* Conifers
diseases, 753a, 1785a, 1785o, 3193
flowers produced by—*see under* Flowers
foliage, marketing, 666
forcing—*see* Forcing
growing—
under artificial light, 659
in containers, 2843
under glass, 658
growth, electrostatic fields stimulate, 2118
nursery stock—see Nursery
nutrition, 2847
pests, 3193
physiology, light and temperature responses, 975
propagation, 652, 1785w, 2944z
research in Great Britain, 1001
research in Holland, 1000, 3907
seed quality, 38
seedling production, 1785w
soil improvement, sewage sludge for, 1681
soilless culture, 657, 1680, 2847
spray injury, 2857
in various countries, 753o, 1786e, 2841
woody—*see* Trees and shrubs
Ornithogalum thyrsoides, 3906, 3948
Orobanche spp. amd their control, 386, 387, 2476, 3598, 3620
Orseoliella javanica, 2478
Oryctes rhinoceros, 867, 960g, 1008, 1866, 2026, 3177p
Osbornellus borealis, 1316x
Osmanthus ilicifolia, 3971
Osmotic pressure, disease resistance affected by, 478
Osyris alba, 355
Otiorrhynchus spp. and their control, 318, 2411, 3533, 3905, 3939
Ovule culture, 2113
Oxalic acid contents of plants, 1496
Oxalis spp., growth substance responses, 2097
Oxalis spp., as weeds and their control, 1346, 2458, 2496
Oxythyrea funesta, 1277
Ozone injury to plants—*see also under* Air pollution—10

Pachypasa otus, 2449i
Pachyrhina pratensis, 1455
Pachyzancla phaeopteralis, 3961
Packing—*see also* Grading, *and individual crops under* packing—
containers—
bags (packages) for fruit and vegetables, 2146b
cartons for—
citrus, 3285q
flowers, 1684
Packing—containers—cartons for (*continued*)—
pome fruits, 178, 180c, 1169g, 2226, 2227, 3285q, 3374, 3375, 3377, 3390
stone fruits, 3385, 3386
vegetables, 3736
plastic or other liners for, 67, 1157, 1167, 3736
trays for tomatoes, 1545c
various for—
apples, 3374, 3376, 3390
flowers, 3915
fruit, general, 179, 1169o
pineapples, 3177t
plums, 3386
small fruits, 196, 1010
vegetables, 1010, 1169o
house—
construction and layout, 2238t
equipment, 1006, 1072, 1155
operations, economic studies on, 2220, 2221, 2993, 2994
methods for—
flowers, 1684, 3915
fruit, general, 66, 68n, 2220, 2221, 3377
vegetables, general, 66, 68n, 3736
plants—*see* Nursery stock
Padus racemosa, 1170i
Paeonia—see also Peony—*anomala*, 649n
Pakistan, crops, 2839b, 2839c
Palms—*see also individual species*—male sterility in, 1842
Palms, ornamental, 3996m
Pammene juliana, 1290
Panagrellus redivivus, 525
Panax spp., medicinal plants, 2797, 2840n
Pandanus pectorius, 4046
Panicoideae, identification, herbicide responses assist, 2908
Panonychus—
citri—*see* Citrus pests, mite, red
ulmi—
control—
biological, 3561 l
chemical, 296, 297, 315, 1261, 1262, 1269, 1270, 1317b, 2395, 2396, 2398, 2403, 2422, 3518, 3519
phenological data aid, 2304
sprays encourage, 296
spray-resistant strains, 1260, 2394, 3520
tree reactions to, 3561h
Pantomorus godmani, 760, 4026
Papaver—see also Poppy—
nudicaule and *P. oreophilum*, 754h
spp., history, 2839p
spp., morphology, environment affects, 3932
Papaw (*Carica papaya*)—
climate, wind protection, 3176p
composition, fruit, 404, 1843, 3102
composition, plant, 898
diseases, fungus, 1901
fruit preservation, 2045
growth substance responses, 825, 2099
nutrition, general, 898

Papaw (*continued*)—
nutrition, salt tolerance, 4021
pests, 4021, 4113, 4114
physiology, metabolism, 3101
planting on old papaw soils, 4113
products, papain, 1611, 2047, 3103, 3104, 3211, 4156e
products, seed oil, 638
research in India, 2047
seed treatment, 825
sex expression, 898, 3101
soil management, fumigation, 4113
soil management, irrigation, 898, 4112
Papilio demoleus, 1815
Paprika—*see under Capsicum*
Papua/New Guinea, crops, fruit and plantation, 959 l, 3176f, 3176v
Paralobesia viteana—*see* Vine, pests, grape berry moth
Paramyelois transitella, 3545
Parasitic plants—*see also Orobanche*—355, 2456, 2457
Paratetranychus—
citri—*see* Citrus pests, mite, red
indicus, 1949
pilosus—*see Panonychus ulmi*
urticae—*see Tetranychus*
Paratylenchus projectus, 3856b
Parinari mobola, 4045d
Park Administration, Rep. int. Congr., 1674
Parlatoria blanchardi, 3004, 4037
Parsley—
diseases, 2784
flowering, gibberellin affects, 2103
weed control, 380, 3605
Parsnip, weed control, 3564
Parthenocarpy—
induced—*see also* Growth-substances, parthenocarpy—
in apricot, 1143
a review, 2146 l
in solanaceous plants—*see also* Tomato, fruit set—1540, 3817
natural, in chestnuts, 2298
natural, in pome fruits, 1115, 3334
Parthenolecanium corni, 2449s
Paspalum dilatatum, 1356
Passiflora spp. in Colombia, 3026y
Passion fruit (mainly *Passiflora edulis*)—
breeding and selection, 2045
by-products, 1835
diseases, fungus, 4044
flower drop, 4043
growing in various countries, 822p, 1840j
growth substance responses, 825
pollination, 1833, 1834, 4043
propagation by grafting, 4044
research in Australia, 2150
rootstocks, 4044
weed control, 2477
Patrinia intermedia, 2787
Pausinystalia yohimbe, 600
Pea—
breeding and selection, 535 l
Pea (*continued*)—
climate, temperature sums, 2587
composition—
plant, 2503
seed and pod—
carbohydrates, 433, 1432, 1457
various compounds, 1024, 1429, 1433, 1457, 2147h
vitamins, 1457
diseases—
cause uncertain, purple blight, 3687
fungus, foot or root rot, or wilt (*Fusarium* spp.), 3686, 3689
fungus, leaf and pod spot and blight or foot rot (*Ascochyta* spp.), 1447, 2593
varietal resistance, 3689
virus, 1444, 2595
economics, 393
grafting, 535 l, 1439, 1441
Growing Res. Organ., Yaxley, A.R., 1426
growing in various countries, 1381, 1545d, 1545m, 1546b, 3795i, 3796b
growth—*see also below*, roots—
growth substances affect, 438, 1440, 1441, 2101, 2147f, 2520, 2521, 2591
plant extracts affect, 2098
weeds affect, 3617
harvesting machinery, 2717w
herbicide responses—*see also below*, soil management, weed control—382, 2500-2502, 3604, 3615, 3618
hybrids, vegetative, 1545w
nutrition—
cation exchange capacity affects, 2127
fertilizer placement, 3685
iron, 51, 441, 3261, 3262
manuring and major elements, 3685, 3795d
minor elements, various, 2120, 2717i, 2717u, 3687
sodium and salt tolerance, 3629
pests, insects, 1452, 1454, 1455, 3526
pests, nematodes, 1545u
physiology—*see also above*, growth—
absorption of radioactive isotopes, 2120
enzyme activity, 433, 1430
growth substances metabolism, 1441
inositol metabolism, 1082i
phosphorus metabolism, 435
radiation responses, 1038, 1039, 1042, 1043, 2119
respiration, 1435, 2591
tissue culture, 441
preservation, 1429
research in the U.S.A., 4195
roots, growth, 441
roots, nodule formation, 3268
seed—
composition—*see above*, composition
germination, 3622
maturation, 2586, 2587
respiration, 1435
sorting, mechanical, 3682
sowing date, 430
sowing rate, 1437, 1438

Pea—seed (*continued*)—
storage, 3624
testing, 1081n
treatment—
with fungicides, 1384, 1545t, 2517, 2593, 3208, 3691
with growth substances, 437, 1440
irradiation with infrared rays, 1454
irradiation with X- and gamma-rays, 1042, 1043, 3268
with ultrasonic waves, 2517
vernalization, 1545a, 2047
soil management, weed control—*see also above*, herbicide—342, 380, 382, 385, 1365, 1366, 2489, 2500-2503, 3568, 3571, 3578, 3604, 3605, 3614, 3616, 3621b
soilless culture, 1374
storage of green, 1457
sweet—*see* Sweet pea
varieties, 430, 1429, 1545b, 1545w, 2717v, 3623, 3686, 3795e
Peach—
×almond hybrid, 2297
a book on, 4167
breeding, 1092, 1170d, 3401e
climate—
micro-, 3330
spring frost injury or resistance, 74, 1170d
temperature responses of flower buds, 3329
wind damage, 231
winter chilling requirements, 116, 1112, 3299
winter hardiness and injury, 234, 1316k, 1316w, 2190, 3401e
composition—
fruit, 155, 175, 1151, 3345, 3365
leaf, 133, 150, 158, 2203, 3341, 3365
shoots and branches, 116, 2238q
diseases—
bacterial—
bacterial shot-hole, 2305
bacterial spot (*Xanthomonas pruni*), 254, 2345
blast (*Pseudomonas syringae*), 1301, 2346
gummosis canker (*Pseudomonas cerasi* var. *prunicola*), 3482
fungus—
brown rot and blossom blight (*Sclerotinia* spp.), 267, 998, 2305, 2369, 2370, 3397, 3499
canker (*Fusicoccum amygdali*), 268, 2305, 2448s, 3501
fruit rot (*Rhizopus* spp.), 3397, 3398
leaf curl (*Taphrina deformans*), 1252, 2305, 2371, 2372, 3500, 3561a
mildew (*Sphaerotheca pannosa*), 478
rust (*Puccinia persicae*), 1253
scab or freckle (*Fusicladium carpophilum*), 3502, 3562q
shot-hole or gum spot (*Clasterosporium carpophilum*), 1252, 2371, 3500
non-parasitic, 2448a
Peach—diseases (*continued*)—
virus—
calico, 246
general, 2329
mosaic, 245
necrotic leaf spot, 1233
phony disease, 337t
ring-spot, 242, 337n
transmission by soil, 337n
flower—
bud differentiation and development, 3330, 4174
bud drop, 3329
thinning, 1141
fruit—*see also above*, composition, *and below*, harvesting, marketing, packing, processing *and* storage—
colour, factors affecting, 2209
cracks, anatomy of, 3331
quality, factors affecting, 3345
ripening, factors affecting, 141, 3330
ripening, tests for, 1153
size, 2209
thinning, 149, 150, 1141, 2212
growing—
in China, 2155
in European countries, 88, 180n, 2238k, 2239c, 4167
on open-cast mining sites, 2204
under plastic, 74
in the U.S.A., 1800
growth—
fruiting affects, 3328
herbicide responses, 2462
leaf extracts depress, 2315
substance responses, 1112, 2851
substances in, 116
harvesting, bulk, 1156, 3287, 3378
harvesting, injuries to fruit during, 2223, 3287
leaf chlorophyll, virus affects, 337t
marketing, 3379
nutrition—
absorption of nutrients through bark, 3269
calcium, 2093
foliar, 135, 226, 2093, 3463
iron, 2093, 3463
leaf analysis a guide to, 3341
magnesium, 3482
manganese, 2203, 2204
manuring in general, 133, 1134, 2448a, 3341, 3482
nitrogen, 141, 2190, 2204, 2209, 2238q, 3345, 3501
phosphorus, 2203, 2238q
potassium, 150, 2238q
salt injury and tolerance, 3467
zinc, 226
packing, containers, 179
pests—
aphid, green—*see Myzus persicae*
Carposina sasakii, 2418
cat-facing and dimpling caused by, 303, 2305

Peach—pests (*continued*)—
dried fruit beetle (*Carpophilus hemipterus*), 267
fruit flies (various spp.), 1884, 24₁3, 2414, 3537
mites, red spider (*Panonychus* and other spp.), 1182, 3522, 3523
nematodes, 111, 1258, 1259
oriental fruit moth (*Cydia molesta*), 303, 310, 2305, 2425, 2443, 2448o, 3544
plum curculio (*Conotrachelus nenuphar*), 303, 1278, 2305
scale, San José (*Quadraspidiotus perniciosus*), 2305
stink bugs (various spp.), 1275
tarnished plant bug (*Lygus lineolaris*), 303
tortrix moth (*Eulia sphaleropa*), 2427
tree borer (*Sanninoidea exitiosa*), 2305, 3527
tree borer, lesser (*Synanthedon pictipes*), 2305
twig borer (*Anarsia lineatella*), 2417
physiology, enzyme activity, 158
planting on old peach soils, 1258, 1259, 2315, 3462
pollen viability, 2183
pollination, 1170 l, 3335
processing, drying, 2237
processing, handling fruit for, 1156
propagation by cuttings, 3316, 3971
propagation by frameworking and layering, 2170
pruning and training, 148, 2207-2209, 3345, 3358, 3359, 3400w, 3401f
research in various countries, 983, 1003
as a rootstock for plums, 111
rootstocks—
apricot, 103
dwarfing, 91
hardy, 1170j
nematode resistance, 2161
in the U.S.S.R., 103
seed, embryo culture, 3317
seed treatment, 1112
seedling production, 104
soil—
management—
cover crops and grass, 141, 180u, 2190, 3351
fumigation, 3462, 3482
general, 2188
irrigation, 180u
methods compared, 3351
mulching, 53, 141, 2190
weed control, 343, 2462, 2467, 3582
requirements, 1117
spray—
accumulation in soil, 2446, 2448m
injury, 135
residues on fruits and leaves, 334, 336
storage, 175, 2369, 2370, 3397
varieties—
in Australia, 180k
in Canada, 2238m, 3400g
Peach—varieties (*continued*)—
for canning, 180k
in China, 71
disease resistant, 268
Elbertita, 3400q
in European countries, 88, 180r, 1092
Goldgen, 1169r
Hale, 175
identification, 3301
Montecorona, 180r
Morettini, 180v, 180z
Simonsberg, 1093
Summerqueen, 1169r
in the U.S.A., 180y, 3299, 3300, 3400z
Pear—*see also Pyrus*—
breeding, 77, 83
climate—
hail injury, 237
heat injury, 225
spring frost protection, 1222
windbreaks and wind responses, 230, 231
winter chilling requirements, 3298
winter injury and hardiness, 77, 234, 1111
composition—
cell-wall, 1170c
fruit, 154, 1169v, 2070, 2215, 2238i
leaf, 131, 158, 222, 260, 1125, 2201
diseases—
bacterial—
blossom and twig blight (*Pseudomonas syringae*), 3480
crown gall (*Pseudomonas tumefaciens*), 3561b
fire-blight (*Erwinia amylovora*), 253, 1169 l, 2342, 2343, 2448h, 3561q, 3637
cause uncertain, rosetting, etc., 101
fungus—
fleck (*Fabraea maculata*), 1247
Pythium spp., 228
scab (*Venturia pirina*), 70, 260, 2351, 2352, 3490, 3561v
non-parasitic, hard-end or black-end, 1316s
non-parasitic, leaf scorch, 225
resistance—*see below*, varieties
virus, 2329, 2330, 3561x
flowering, preventing abnormal, 231
fruit—*see also above*, composition, *and below*, harvesting, packing *and* storage—
parthenocarpy, natural, 1115
quality, factors affecting, 2202
ripening—*see also below*, storage—metabolism of, 154
russeting, 3559
set, growth substances improve, 2213
size, factors affecting, 2202, 3313
stone cells, 1169v
growing, a book on, 2010
growing in various countries, 1086, 1170b, 2010
growth—
herbicides affect, 2462, 2464
reversion to juvenile form, 2181

Pear—growth (continued)—
  substance responses, 231
  harvesting, bulk, 1155, 2236r
  harvesting, time of, 2045
  interstocks, 91, 102, 3313
  mutations, 2181
  mycorrhiza, 253
  nutrition—
    boron, 222, 2307
    foliar, 135, 222
    iron and lime-induced chlorosis, 2306, 3464, 3465
    manuring in general, 131, 2202
    potassium, 225, 1125, 2261
  packing and grading, 174, 178, 180c, 180t, 1155, 2227, 3285q, 3377
  pests—
    Carposina sasakii, 2418
    codling moth (*Enarmonia pomonella*), 1317k
    fruit fly (*Ceratitis capitata*), 3537
    mites, leaf blister or bud (*Phytoptus* and *Phyllocoptes* spp.), 1263, 3522
    mites, red spider (*Panonychus* and other spp.), 1262, 2397, 2443v
    nematodes, 291
    sawfly (*Hoplocampa brevis*), 2430
    slugworms (*Caliroa* spp.), 316
    sucker or psylla (*Psylla* spp.), 225, 2429, 3526
    tortrix (*Adoxophyes* and *Eulia* spp.), 2426, 2427, 3542
  physiology—
    chloroplast agglutination, 2180
    protein synthesis, 1147
    water relations, 2169
  planting on old plum soils, 228
  pollen viability and germination, 2183
  pollination, 1114, 2185, 3400y
  processing—see also below, varieties—drying, 2237
  propagation—see also below, rootstocks—
    by cuttings, 1097
    on own roots, 3304
    ringing trees with premature autumn colouring, 2202
  pruning and training—
    disease and pest control in relation to, 1262, 2343
    general, 148, 3958
    root, 231
  research in Belgium, 4175
  research in Japan, 961
  rootstocks—see also above, interstocks—
    dwarfing, 91
    pear clones and seedlings, 3313
    Pyrus spp., 83, 170
    quince, 100-102, 3313, 3314
    -scion relationships, 100-102, 2169, 2238i, 3314
  in various countries, 180 l, 3400f
seed testing, 3400v
soil—
  management—
    cover crops and grass, 1118
Pear—soil—management (continued)—
    general, 2186
    mulching, 93, 2201, 2202
    weed control, 343, 347, 2462, 2464 l
  sickness, 228
  spray injury, 1817q, 2342, 2439y, 3559
  storage—
    air circulation in, 1168
    cold, 174, 177, 2237, 3399
    containers and their stowage, 174
    dips and coatings, 2247
    disorders and diseases, 168
    humidity in, 1168
    quality, factors affecting, 2227
    research at Ditton Lab., 1019
    ripening, 154, 177, 3287
    varietal behaviour, 3388
    waxed paper liners for, 1167
  varieties—
    collections of, 84, 1169p
    disease resistance, 83, 260, 1169 l
    hardy, 88
    identification, 977
    Kieffer, 102
    Max-red Bartlett, 95
    Moretini, 1169z
    for processing, 79, 1810t
    variability, 2181
    in various countries, 71, 84, 180i, 1169x, 2159, 3298
  wild, in Hungary, 3401h
Peat—
  algae growing on, 3912
  horticultural uses, 2146x
  as a medium for ornamental plants, 1680, 2847, 3912
  nutrition of plants grown in, 754c, 1780, 2847, 3652, 3796n, 3913
  pots plunged in, 3910
  in potting composts, 3911
  soil improvement by, 2870
  soil salinity effects reduced by, 3796y
Pecan—
  diseases, 296, 2350
  nut drop, 214
  nut shelling, 1211
  nutrition, 214
  pests, 312, 313, 1291
  propagation, vegetative, 219y
  soil management, general, 2188
Pectic substances—
  apple, 49
  apricot, 1169s
  carrot, 40
  irradiation affects, 48
  in roots, 1981 l
  tomato, 2796p
  in tropical plants, 1843
Pelargonium—see under Geranium
Pelletierine in plants, 598, 1624
Pellicularia filamentosa, 634, 3111
Pellicularia rolfsi 2703
Pe—
  digitatum, 798, 799, 801, 3000, 3001

Penicillium (*continued*)—
italicum, 798, 799, 3000
spp., unspecified, 3022
Pennsylvania agric. Exp. Stat., A.R., 3226k
Pentaclethra spp., oil seeds, 2829
Pentalonia nigronervosa, 3529
Peony—*see also Paeonia*—
diseases, 1005
seed embryo development, 1785k
tree (*Paeonia suffruticosa*), 1707, 2944t
Peperomia incana, 653
Pepper—
black (*Piper*)—
flowering, early, 3211
growing in various countries, 1611, 2839c
pests, 1606
production and trade, 1673m
propagation by cuttings, 2839d, 3859
sampling methods, 2839e
seedling production, 3859
storage, 1606
red and sweet—*see Capsicum*
Peppermint—*see under* Mint
Perfume plants—*see under* Essential oils
Perileucoptera coffeella, 1886, 1887
Perilla—
growth substance responses, 2108
light responses, 17, 18, 2079, 2080, 2108
nutrition, 44
physiology, general, 1029, 2069
root formation, flowering affects, 24
seed germination, 694
seed oil, 2830
Periodicals, new or revived, 1014, 2056, 2057, 2719, 3222-3225, 4196-4199
Peronospora—
cubensis, 2578
destructor (=*P. schleideni*)—*see* Onion, diseases, fungus, downy mildew
ficariae, 1717
parasitica, 419, 2557
sparsa, 1005
tabacina—*see* Tobacco, diseases, fungus, blue mould
Persimmon (*Diospyros kaki* and other *Diospyros* spp.)—
climate, frost injury, 234
climate, wind damage, 231
composition, fruit, 818, 3023
diseases, 816, 1837, 3022
fruit ripening, 1838
fruit thinning, 1836
growth substance responses, 231
harvesting, 818
research in Japan, 983
as a rootstock for loquat, 3319
storage, 817, 1839, 2947, 3023
Peru, crops, vegetables, 458
Pest(s)—*see also* Insects *and individual pests and hosts*—
books on, 1217, 3188, 3193
common names of British, 2449n
control—*see also* Acaricides, Insecticides, Plant protection *and* Rodenticides—
Pest(s)—control (*continued*)—
biological—*see also* Codling moth, Mites *and* Sugar-cane pests—310, 526, 867, 959u, 984, 1008, 1290, 1494, 1666, 1844, 2016, 2026, 2403, 2406, 2448p, 2836, 2987, 3004, 3037, 3177p, 3177v, 3544, 3561 l, 3561s, 3562r, 4045b, 4058, 4096, 4156g, 4162
in glasshouses, 410
research, advances in, 2009
in stored products, 864
incidence, climate in relation to, 2401
infestation, sampling for, 1997b
plant resistance, factors affecting, 927
in various countries, 2303, 2449g, 3226j
Pestalotia versicolor, 738, 739, 4174
Pesticides Res. Cttee, Colonial, A.R., 2019
Pesticides Res. Unit, Arusha, Colonial, Progr. Rep., 2020
Petunia—
growth substance responses, 667, 2851
pollen germination, 1049
pots for, 3996b
varieties, 3907
weed control, 356, 2468
Phaneroptera furcifera, 2765
Phaulacridium vittatum, 579
Phenology—*see under* Climate
Philadelphus coronarius, 2927
Philaenus leucophthalmus, 2443
Philodendron spp., pests, 2858
Phlorizin, soil sickness attributed to, 3461
Phlox, weed control, 2468
Phoma—
costarricensis, 3079
destructiva, 3785
lingam, 1407
rostrupii, 1476
Phomopsis—
citri—*see Diaporthe citri*
spp., unspecified, 285
viticola, 282
Phoradendron flavescens—*see* Mistletoe
Phormium tenax, diseases, 2805
Phorodon humuli, 1647, 3562j
Phosphorus—*see also individual crops under* nutrition—
absorption by roots, 1516, 2685, 2686, 3769
application—
foliar, 45, 137, 170, 473, 2121, 2123, 2124, 2286, 2736, 3269, 3408, 3440, 3769
by injection, 2068
placement, 2687
content of plants, factors affecting, 1570, 2690, 3237
content of plants, seasonal variations in, 4087
deficiency symptoms, 3913
determination, 1060, 1873, 1997j, 3233
insecticides—*see under* Acaricides *and* Insecticides
metabolism in plants, 435, 3197
nutrition—
chloride in relation to, 2690
flower development affected by, 3408

Phosphorus—nutrition (*continued*)—
of fruit and plantation crops, evergreen, 890
of tree fruits, deciduous, 1121
minor elements in relation to, 557, 891, 1789, 2203, 4011, 4014
nitrogen in relation to, 1940, 2203, 2661, 2685, 2686, 3773
plant analysis as a guide to, 3135
potassium in relation to, 891, 1940, 2203, 2661
root nodulation affected by, 3268
soil analysis as a guide to, 500
soil temperature affects, 2684, 2685, 3769
sulphate in relation to, 2690
vascular anatomy affected by, 1063
organic acid metabolism affected by, 564
radioactive, 35, 45, 435, 473, 721, 1023, 1041, 1130, 1132, 1874, 2068, 2069, 2121, 2123, 2124, 2527, 2685-2687, 2967, 3266, 3268, 3312
sources, 3795d, 3805
translocation, 721, 1130, 2123, 2124, 2967
Photinia serrulata, 3319
Photinia spp., propagation, vegetative, 3970
Photography, aerial, for orchard surveys, 65
Photometry, flame, 68c, 1082n, 1997j
Photoperiodism—
anatomical changes due to, 21
apparatus for controlling day-length, 1081o
branching affected by, 3873
carbon dioxide fixation in relation to, 1785q
growth substance relationships—*see* Growth-substances
leaves, isolated, responses to, 2080
photoreversibility of the effects of, 2872, 2873, 2928
plant—
metabolism in relation to, 21, 2079
responses—*see also* Begonia, Chrysanthemum, *Kalanchoë*, Sugar-cane, Tomato *and Xanthium, under* physiology, *and* Perilla, light—
fruit trees, deciduous, 2173
ornamentals—
annuals and biennials, 2862, 2888, 2895
bulbs, 707
general, 975
herbaceous, 660, 673, 1679, 1726, 2881, 3929
succulents, 2078, 2915
woody, 1081x, 1755, 1785r, 2927, 2928, 3973, 3993, 3995
small fruits, 1216a, 3423
tropical plants, 3218
various plants, 22, 1033, 2077, 2104-2108, 2267, 2862, 3810, 3822, 3873
vegetables, 424, 434, 1418, 1483, 1495, 2575, 2615, 2616, 3203, 3669, 3725, 3737
production of cuttings affected by, 688
rainfall in relation to, 2064
Photoperiodism (*continued*)—
reviews on, 968, 1081x, 3997n
root development affected by, 3822, 3972
rootstocks and interstocks affect, 2077, 2078, 2080
seed response to, 2917, 2928, 3725
sex expression affected by, 424, 1033, 3669
and thermoperiodism, 19
translocation of flowering stimulus, 17, 18, 20
vernalization affected by, 2664
Photosynthesis, 13, 68h, 573, 968, 1028, 1029, 1082y, 1215, 1968, 1969, 2075, 2219, 2266, 2686, 3098, 3272, 3285w, 3550, 3748, 3836, 4172
Photothermographs for ecological studies, 395
Phragmites spp., control, 2455, 3601
Phrixolepia sericea, 3169
Phthorimoea heliopa, 589p, 2753
Phyllanthus emblica, 4154
Phyllanthus spp., propagation, 2047
Phyllocoptes—
fockeui, 3522
gracilis, 3524
spp., unspecified, 1316n
vitis, 1269
Phyllocoptruta oleivora, 1009, 2988, 2990, 4045f
Phyllodromia germanica, 3907
Phyllogeiton discolor, 4045d
Phyllostachys spp., bamboos, 1669
Phyllosticta grossulariae, 2375
Phyllosticta prunicola, 337k
Phyllotreta atra, 1306
Phylloxera—see Vine pests
Physalis ixocarpa, 1546q
Physalis minima, 2482
Physalospora obtusa, 259
Physalospora tucumanensis, 933, 937, 3176n
Physiology of plants, books on, 3197, 3198
Phytelephas macrocarpa, 3027c
Phytomyza ilicis, 3975
Phytoncides from plants, 649n
Phytophthora—
cactorum, 265, 2363, 2364, 2449t, 2815
cinnamomi, 822n, 823g, 823h, 1841k, 2045, 2951, 2952
citrophthora—see under Citrus diseases, fungus, gummosis
fragariae—see also Strawberry diseases, fungus, red core—2377, 3562b
ilicis, 746
infestans on tomato—*see* Tomato, diseases, fungus, blight
jatrophae, 1610
palmivora, 1857, 1901, 1910, 3048, 3050, 3051, 3118, 3177u, 3963, 4117
parasitica, 1858, 4022
spp., unspecified, 220b, 1602c, 1811, 2932
syringae, 2364
Phytoptus ribis, 299, 2038
Phytotoxicity—*see* Spray injury *and also under* Fungicides, Herbicides *and* Insecticides

Phytotrons, 980
Pieris (butterfly)—
brassicae, 2718d, 3642
canidia, 1546s
rapae, 3657
Pigments—
anthocyanin—
biosynthesis, 157, 2147e, 3285b
destruction during cacao fermentation, 861, 1863
in plants, 214, 1026, 1216f, 1785t, 2081, 2940, 3177w, 3996c, 3996h
anthoxanthin, 1785t, 2944o
carotenoid—
biosynthesis, 2625, 2626
determination, 1602t, 1840p, 3286f, 4045n
in plants, 202, 585, 1804, 2073, 2914, 3003, 3176e, 3820
chlorophyll—*see also* Chloroplasts—1602t, 1804, 2626, 3820
flavonoid—
biogenesis, 4172
determination, 4045a
in plants, 1785h, 2409, 2681, 2780f, 3271, 3830, 3996h
general, determination, 1536
root excretes, 2755
various, in plants, 1177, 1840p, 1863, 3796k, 3821, 3940, 3996k, 3997p
xanthophyll, 202, 585, 1602t, 1804, 3820
Pili nut (*Canarium ovatum*), 827
Pimpinella anisum, 591
Pineapple—
climate, rainfall, 3177s
composition—
fruit, 1998q, 4156q
leaf, 3105
plant, 3176z
stem, 1908
diseases, bacterial, 901, 3108
flowering, treatments to advance, 3177s
fruit—
collapse, 3108
fumigation, 2953
yields, leaf measurements in relation to, 4115
growing in Malaya, 1997p
nutrition, 899, 900, 1905-1907, 3105-3107
packing, 3177t
pests, 959c, 3109
planting, land preparation for, 1997q
planting, spacing, 899, 1903, 1904
processing, 839
production and trade, 3176 l
research in Australia, 2045
soil management, cultivation, 4156s
soil management, weed control, 361, 1350, 1351, 3599
varieties, 71, 1902
Pinus—
coulteri, 2854
elliottii, 3252
spp.—*see also* Conifers—essential oil from, 1626
Pistachio—
growing in various countries, 217, 2300, 3453, 3459a
pests, 2449i
propagation, vegetative, 4193
pruning, 148
Pistacia chinensis, 3997o
Pistacia mutica, 2840e
Plaesius javanicus, 4058
Plagiospermum chinensis, 1096
Plant—
breeding—*see under separate plants*
physiology, books and reviews on, 1082p, 4172
protection—
economics, 338a, 2358, 3556
equipment, a review, 3180
in various countries, 1005, 1998 l, 3796m
chemicals, production and trade, 2448t
Plantago ovata, 649 l
Plantain lilies (*Hosta* spp.), 1785v
Plantation crops—
a book on, 3183
history and development, 4157s
pests, 959u
Planting—*see also separate crops*, Machines *and* Replanting—
contour—*see also* Soil conservation—4157h
row orientation, 2562
transplanting—
labour efficiency in, 1675
mature trees, 781
pricking-out, boxes for, 2141
pricking-out, checks due to, 2514
Plasmodiophora brassicae, 405, 418, 999, 1405, 2038, 2555, 2556, 3208, 3637
Plasmopara viticola—*see* Vine, diseases, fungus, downy mildew
Plastic—
coatings for cut flowers, 3916, 3917
coatings for cuttings, 4077
films for—
blanching asparagus, 2544
covering fruit trees, 74
covering vine fruit bunches, 1206
dividing plots in aquatic weed control trials, 3576
fumigating plants or soil, 300, 1077
lining soil temperature tanks, 3282
packing—
flowers, 665
fruits, nuts and vegetables, 67, 2146b, 3736
plant material, 908, 4173
plant propagation, 844, 885, 886, 908, 1003, 2238y, 2247, 2273, 2944d, 3043, 3991, 4102, 4152
protecting crops or seedbeds, 74, 2565, 2567, 2568, 2643, 3203, 3949
protecting tree wounds, 2143
sterilizing soil, 54
storing—
black pepper, 1606
fruits, 167, 176, 810, 999, 1166, 1208, 3393

Plastic—films for—storing (*continued*)—
plants, 3422
vegetables, 167
as a glass substitute, 60, 61, 399, 1068, 2027, 2134, 2247, 3276, 3277, 3796p, 3949, 4179
materials, horticultural uses, 64, 1082e, 3285c, 3285i
pots, 1508, 3045, 3281, 3996b
as a potting medium for orchids, 3996d
shelters for frost protection, 4017
storage chambers, 3203
tubes for glasshouse heating, 1071
Platycodon grandiflorus, 1708
Platypus spp. on cacao, 856
Plectranthus australis, 2097
Pleospora herbarum, 3796 l
Plesiocorus spp., unspecified, 337u
Plodia spp. in stored figs, 311
Plum (including prune and gage)—
breeding, 1094
climate, fruit shape affected by, 3562t
climate, winter injury and hardiness, 1111, 2316
composition, fruit, 158, 2070, 3366
composition, leaf, 180a, 180b
diseases—
bacterial canker (*Pseudomonas* spp.), 2348
cause uncertain, 2316, 2317
fungus, brown rot (*Sclerotinia* (*Monilia*) spp.), 2367
fungus, *Polystigma rubrum*, 269, 270
non-parasitic, prune crinkle leaf, 227
virus—
bark split, 1240
line pattern, 1233
general, 241
prune dwarf, 244
ring pox and/or spot, 2333
separation of, 1235
economics, 3383
fruit—*see also above*, composition *and below*, harvesting, packing *and* storage—
drop, spraying to retard, 2214
gumming, 2317
respiration, 3399
ripening—
growth substances affect, 2214
stages of, 2238u
varietal characteristics, 181g
shape, factors affecting, 3562t
size, growth substances affect, 1145
thinning, 2045, 3357
growth—
gravity affects, 3320
rate, 1109
shoot emerging from an apricot, 115
substance responses, 1145, 2214
harvesting, 63, 2238u, 3382-3384
nutrition—
foliar, 2093
minor elements, 2093
salt injury and tolerance, 3467
Plum (*continued*)—
packing and grading, 3385, 3386
pests—
aphids (various species), 3531, 3562j
fruit fly (*Chaetodacus* sp.), 996
mites (various species), 315, 2399
nematodes, 111
sawfly (*Hoplocampa minuta*), 315
scale (*Parthenolecanium corni*), 2449s
Schizura ipomaeae, 337r
slugworms (*Caliroa* spp.), 316
tortrix moths, 2427
physiology—
carbohydrate metabolism, 180a, 180b
respiration, 3399
water relations, 2317
pollen viability, 2183
pollen, virus transmission by, 241
pollination, 2187, 2238v, 2239o, 3335
propagation—*see also below*, rootstocks *and* seed—
by budding, 108, 109
by cuttings, 1106, 3316
on own roots, 3304
by suckers, 1104
research in Australia, 1003
rootstocks—
cytology, 2158
dwarfing, 91
nematode-resistant, 111
-scion relationships, 1109
in various countries, 109, 110, 180 l, 1084, 2041, 3315
seed germination, 1081a
seed treatment, 1105
spray injury, 2399, 3531
storage, 3399
varieties—
Chinook, 78
Gracious, 78
Morettini, 180z
Narrabeen, 2238u
for processing, 79
times of ripening, 181g
in various countries, 2162, 3402
Wickson, 2238u
Plusia spp., on tobacco, 579
Plutella maculipennis, 2560
Poa annua, control, 372, 2487
Poa spp., shoot density, 2906
Podocarpus koreana, 3971
Podosphaera leucotricha—*see* Apple, diseases, fungus, mildew
Poinciana regia, 742
Poinsettia—
diseases, 749
flower bract pigments, 2940
forcing, 1774, 1785r
growing in Italy, 1785g
growth substance responses, 1776, 3214
leaf, leaching of nutrients from, 3269
nutrition, 4195
photoperiodic and temperature responses, 1785r

Poinsettia (*continued*)—
propagation, vegetative, 1773, 1774, 3214, 4195
seed, latex tubes, 1786b, 1786c
Poison ivy (*Rhus radicans*), 341, 2460, 2511h, 3579, 4105
Poison oak (*Rhus diversilobus*), 4105
Poland, crops, 1085, 1216r, 1428, 1612
Poland, pomological research, 70
Polarity in plants, 1193, 1196, 2069, 4007
Polemonium coeruleum, 595
Pollen—
characters, temperature affects, 3746
composition, 11, 1081g
development in vines, 1187
dispensers or cages, 2185, 2186
dispersal in chestnuts, 2301b
germination and tube growth—
boron and other nutrients affect, 3259
climatic factors affect, 4100
flower age affects, 124, 2187
growth substances affect, 1049
insect transport affects, 3665
in interspecific crosses, 3335
media for, 2183, 2725
techniques for studying, 2144
storage and longevity, 2183, 2671, 2725
treatment with X- and other rays, 3666
viability and sterility in various plants, 1842, 2930
virus transmission by, 241
Pollination and fertilization—
artificial, 123, 805, 894, 2184, 3400o, 3444
by insects, bees—*see* Bees
by insects, various, 1170 l, 2645, 4153
interspecific, 123, 2238b, 2971, 3335
of plants—
fruit and plantation crops, evergreen dicotyledons—*see also* Cacao, Citrus *and* Olive—1142, 1833, 1834, 3006, 3007, 3025, 4043, 4100, 4104, 4153
fruit and plantation crops, evergreen monocotyledons, 805, 894, 1842
fruit trees, deciduous—*see also* Apple, Cherry, Peach, Pear *and* Plum—2238b, 3336
nut trees, deciduous, 1003, 2298
ornamentals, 1718, 1763, 2551
small fruits, 2243, 2244, 2301j, 3444
vegetables—*see also* Tomato—535k, 1394, 1481, 1482, 1546c, 2551, 2645, 2670, 2671, 2715, 3664-3666
pollen—
compatibility, temperature affects, 1482
mixtures affect, 1114, 2670, 3333
source affects, 1509
rain or water sprays aid, 4153
rootstock affects, 1114
self-sterility, physiology of, 1481, 1834
Polychrosis spp.—*see* Vine, pests, grape berry moths
Polyembryony in plants, 2717h, 2971, 3027e, 3088
Polygonum plebejum, 2482
Polygonum spp., control, 371, 372, 1366, 2485
Polyphenols—*see also* Tannins, Tea composition, *and separate compounds*—
determination, 4157i
disease resistance in relation to, 260, 266, 428, 692
in plants, 851, 1025, 1082b, 1862, 1863, 2021, 2146q, 2776, 2777, 3163, 3164, 3498, 3827, 4144, 4156z
Polyploidy, competition between plants affected by, 2724
Polyploidy, methods of inducing—*see also* Colchicine—1182
Polyporus brumalis, 2612
Polystichum munitum, 3916
Polystictus sp. on apples, 131
Polystigma rubrum, 269, 270
Pome fruits—*see also separate fruits*—
breeding and selection, 2239 l
diseases, virus, 2148
growing in Southern Rhodesia, 2238f
spray programmes, 1316c
Pomegranate—
diseases, 2047
as a medicinal plant, 1611
propagation by cuttings, 2238 l
a review on, 75
Pomological sci. Conf. in Poland, 70
Poncirus trifoliata—
as a citrus rootstock—*see under* Citrus
flower sex, 2975
pollination of citrus by, 2971
Popillia japonica, 2910
Poplar—*see under Populus*
Poppy—*see also Papaver*—
oil-seed, oil accumulation and characteristics, 642, 1664, 3899
opium—
alkaloid biogenesis, 3867, 3868
flower abnormality, 601
history, 2839p
ovule culture, 2113
seed oil, 1673k
Populus spp.—
nutrition, 4173
ringing, 16
as windbreaks, 2449o
Poria hypobrunnea, 1999f
Porthetria dispar, 2448j
Portugal, crops, fruit, 822u
Portulaca oleracea, 12, 2496
Pot(s)—
fibre, 3649
herbicidal treatment of, 2452
plants—
culture, general, 2843
nutrition, 3910
soilless culture, 2847, 3912
watering, 2848, 3906, 3910
plastic, 1508, 3045, 3281, 3996b
porosity of, 992
soil (block), peat and turf, 1696, 2514
various types and substitutes, 963, 2843, 3072, 3983

Potamogeton spp., control, 2455, 3574
Potassium—
absorption, temperature affects, 3769
application, foliar, 137, 170, 2121, 3408, 3440
bicarbonate, organic acid formation affected by, 564
content of plants, factors affecting, 1570, 2200, 2924, 3237, 4087
determination, 1060, 1873, 1997j
fixation in soil, 770
leaching from plants, 507
nutrition—*see also individual crops under* nutrition—
calcium in relation to, 221, 1976
calcium oxalate crystals in relation to, 3264
disease susceptibility affected by, 1899
flower differentiation affected by, 3408
flowering date affected by, 2540
frost resistance in relation to, 674
fruit composition in relation to, 1131, 2689
of fruit trees under grass, 1121
magnesium in relation to, 422, 890, 1131, 1199, 1515, 1976, 4089
mulching affects, 2201
nitrogen in relation to, 211, 1515, 1939, 2196, 2734
phosphorus in relation to, 891, 1940, 2203
plant metabolism affected by, 507, 553
plant structure affected by, 3796q
rainfall in relation to, 2717s
rubidium as an indicator of, 4129
sodium in relation to, 560, 3707
various elements in relation to, 221, 557, 2731, 3113
vitamin C content in relation to, 1376
radioactive, 35, 2121
sources for pot plants, 2871
sources, salts compared, 1513
a symposium on, 2008
toxicity, 1513, 3218
Pouteria spp., edible, 1998o
Pratylenchus—
musicola, 4057
penetrans, 1258, 1259, 1317e, 3203, 3517
spp., unspecified, 291, 295, 933, 2449c, 3904c
vulnus, 294, 2392, 2924
Prays citri, 3201
Prays oleellus, 3020
Prestonia amazonicum, 1615
Primula—
composition, 1686
flowers, antibiotics in, 1785m
gibberellin responses, 2850
nutrition, 1682, 1685
pests, 2945e
varieties, 4174
Primulaceae, pigments, 1785h
Prinsepia chinensis, 1096
Priotropis cytisoides, 1963
Privet—*see also Ligustrum*—
mercury paint vapours injure, 2855
water relations, 494
weed control, 2471
Proceedings—
Austrian Seed Prod. Mtg, 3226a
Easter School in agric. Sci., Univ. Nott., 2005
3rd int. Conf. Biol. Cult. Mushrooms, 2600
int. Conf. peaceful Uses atom. Energy, 4166
int. Congr. Park Administ., 1674
Proceras spp. on sugar cane, 1999c
Propagation—*see also under plants and methods*—
books on, 652, 967, 2003
humidification systems—*see* Cuttings, mist, *and* Humidifiers
vegetative—
of fruits, 3400r
natural, 181f
and regeneration, 710
Proteins, plant—
biosynthesis and metabolism, 1019, 2215, 3198, 4172
content, herbicides affect, 2503
content of seeds, 2782
extraction and determination, 1019, 3234
preparation of edible, 4188
Protoparce quinquemaculata, 526, 3845
Protoparce sexta, 526, 3845
Prune—*see under* Plum
Pruning and training—*see also individual plants*—
flower sex affected by, 1200
of fruit trees, 3358
mechanized, 1169f, 1792, 3400h
methods—
Bouché-Thomas, 1169c
Guyot, 2295
Kipp, 2205
of ornamental trees and shrubs, 753p, 754e, 3996s
physiological effects of, 1138, 1140
summer, 3359
tools, 680
wounds, treatment of, 1139
Prunus—
avium—*see also* Cherry—16, 1081g, 3400i
besseyi, 91
caroliniana, 3983
cerasifera, clones, nematode resistance, 111
cerasifera, seed treatments, 1105
chamaecerasus, 1110
fruticosa, 2238b, 3332
maackii, 3332
mahaleb, 35
maritima, 1106
nigra, 2073
padus, 181f
pumila, 78
racemosa, 3332
species, various—
cytology, 2158
diseases, virus, 243
gibberellin responses, 2851
hardiness, 3303, 3332
hybrids, 2238p
ornamental, forcing, 3905, 3906

Prunus—species, various (*continued*)—
pests, 1264, 1756
physiology, 1082y
pollen composition, 1081g
propagation by cuttings, 3970
ringing, 16
as rootstocks for fruit trees—*see separate fruits under* rootstocks
as rootstocks for ornamentals, 1761
seed testing, 3400v
winter chilling requirements, 1110
spinosa, 1081g
tomentosa, 91, 1170j, 1761, 3970
triloba, 1761, 3905, 3906, 3990
Psalliota spp.—*see* Mushroom
Pseudaletia unipuncta, 3141
Pseudococcus—
brevipes, 959c
citri, 2987
njalensis, 4156 l
spp., various and unspecified, 3907, 4045b
Pseudomonas—
caryophylli, 2868
cattleyae, 3963
cerasi, 3482
garcae, 4091
lachrymans, 1546p
marginalis, 1012
phaseolicola—*see* Beans (*Phaseolus*), diseases, bacterial
savastanoi, 814
solanacearum, 1011, 1583, 2049, 2716x, 3035
syringae, 443, 1251, 1301, 1840r, 2346-2348, 2557, 3480, 3908
tabacum—*see* Tobacco diseases, bacterial, wildfire
Pseudoperonospora humuli—*see* Hop diseases, fungus, downy mildew
Pseudopeziza ribis, 274, 2448c
Pseudosinella violenta, 3140
Pseudotheraptus wayi, 2019, 2054, 3217, 4070
Pseudotsuga macrocarpa, 2854
Psila nigricornis, 2878
Psila rosae—*see* Carrot, pests, insect, fly
Psylla—
mali, 2401, 2423
pyricola (=*P. pyri*)—*see* Pear pests, sucker
spp., unspecified, 2429
Pterandrus rosa—*see Ceratitis*
Pteris spp., taxonomy, 3996r
Pterocarya stenoptera, 1212
Pubblicazioni del Centro di Studio sul Castagno, a new periodical, 3222
Puccinia—
asparagi, 3645
carthami, 2831
iridis, 709
menthae, 2053, 3637
persicae, 1253
Puerto Rico, crops, sugar, 1933
Pulmonaria mollissima, 3698
Pulvinaria vitis, 3548
Pumice stone as a medium for soilless culture, 2569
Pumpkin—*see also* Cucurbits *and* Squash—
composition, plant, 428
diseases, 428
pests, 1423
physiology, translocation, 3270
seed oil, 1672q, 3903u
seed sterility, 3898
Purdue Univ. agric. Exp. Stat., A.R., 4200s
Purslane composition, 12
Pyrenochaeta terrestris, 462
Pyrethrins—*see also below*, Pyrethrum flowers—from *Anacyclus pyrethrum*, 1654
Pyrethrum—
diseases, 2817
flowers—
drying, 633, 2818
pollination, 3174
prolonging life of ornamental, 2859
pyrethrins, 633, 649o, 2840c, 3174, 3893, 3894
growing in various countries, 1611, 2817
leaf composition, flowering in relation to, 4192
nutrition, 1015s
pests, nematodes, 3904c
physiology, 3893
research in Kenya, 995, 4182
research in Tanganyika, 3217
soil management, weed control, 1346, 2020, 3907
Pyrilla spp. on sugar cane—*see* Sugar-cane pests, leafhoppers
Pyrus spp. in China, 83
Pyrus spp. in Hungary, 3401h
Pythium—*see also* Damping-off
spp., unspecified, 119, 228, 749, 2377, 3996o
splendens, 1898
ultimum, 428
vexans, 1901

Quadraspidiotus perniciosus—*see* San José scale
Quadraspidiotus piri, 2401
Quarterly Circular Tea Res. Inst. E. Africa, a new periodical, 2057
Quassia amara, 1611
Quebec Minist. Agric., A.R., 2044
Queensland—*see also under* Australia—
Bureau Sugar Exp. Stats, A.R., 1930
Dep. Agric. Stock, A.R., 2045
nut—*see* Macadamia
Quercetin in plants, 3830
Quercus—*see also* Oak—*suber*, 3903p
Quince—
composition, 158
diseases, 240
flower biology, 2176
propagation by cuttings, 3316
as a rootstock for pear—*see* Pear rootstocks
varieties, 2239g
Quinic acids in plants, 567, 3968
Quinine—*see also under* Cinchona—determination, 3903f
Quinones, naturally occurring, a book on, 4165

Rabbit—*see under* Rodents
Radiation—
  atomic, of fruits, 1169y, 1529
  ionizing, a review on, 3400k
  thermal neutron, 1043
Radioactive—
  growth substances, 1180, 2096
  herbicides—*see* Herbicides
  insecticides—*see* Insecticides
  isotopes—
    autoradiographic techniques, 1019, 2072
    contamination of plants with, 1082q
    growth stimulated by, 1041, 1042
    plant injury from, 3271
    purification of soil contaminated with, 1039, 1040
    seed treatment with—*see* Seed treatment by irradiation
    uptake by plants, 1038, 1039, 1082t, 2120
    uses in agricultural research, 2, 964, 1028, 1081m, 2009, 3191, 3270, 3271, 3286d, 3286e
  nutrients—*see also* Calcium, Carbon, Nitrogen *and* Phosphorus—35, 51, 1059, 1082t, 2067, 2120, 2121, 2238h, 2950, 3076, 3312, 4013, 4129
Radiographs—*see under* X-ray
Radish—
  breeding and selection, 3715
  climate, light responses, 1483
  climate, temperature responses, 1482, 1483
  composition, 12, 1485, 2525, 2536
  diseases, 471, 472, 1486, 2634
  growing under glass, 2516, 2718 l
  growth—
    characters, 2632
    substance responses, 401, 1484, 2520, 2717j
    X-rays affect, 2631
  harvesting, machines for, 1390
  nutrition, 1375, 2633, 3312, 3722
  physiology, 1371, 2633
  pollen germination, 535k
  pollination, 1481, 1482, 2551
  root—
    pithiness, 469, 470, 3715
    shape, factors affecting, 2632
    storage, 411
  seed—
    production, 2520
    sowing depth, 2632
    storage, 3624
    treatments, 396, 1382, 1385, 1486, 2525, 2631, 3268, 3644, 3704, 3716
  soil management—
    soil conditioners, 2528
    soil heating, 2515
    rotations, 1469
    weed control, 2090, 2505
  soilless culture, 1374
  spray residues, 3644, 3704
  varieties, 3202, 3714
Radolphus similis, 822o, 1813, 1814, 1854, 3026o, 3026r, 4045e, 4057
Rain—*see under* Climate
Ramie—
  growing in India, 3903 l
  nutrition, 3903z
  seed oil composition, 643
Ramularia bellunensis, 2817
Ranunculus planting time, 698
Raoilla indica, 3171
Raspberry—*see also Rubus*—
  breeding and selection, 2301x, 3207
  composition, fruit, 2240, 3418
  diseases—
    cause uncertain, diè-back, 3208
    fungus, 3508
    virus, 1005, 1241, 3561u
  flower bud initiation and development, 187
  fruit—
    developmental stages, 3418
    quality, factors affecting, 3426
    storage, 3426
  growing in—
    Australia, 3458d
    France, 219e
    the U.S.S.R., 3406
  marketing, 3379
  nutrition, 3405, 3418
  pests—
    aphids (*Amphorophora rubi*), 1241 1316u
    insects, various, 304
    mites (*Phyllocoptes* sp.), 3524
  planting, spacing, 2038
  research in Great Britain, 1007, 4190
  soil management—
    general, 2188
    mulching, 3403
    weed control, 343, 347, 1319, 2486
  stakes for, 4179
  varieties—
    aphid resistance, 1316u
    a book on, 972
    frost resistance, 2301x
    for processing, 79, 3458g
    in the United Kingdom, 2038, 3402
    virus susceptibility, 1241
Rat—*see under* Rodents
Rauwolfia (*Rauvolfia*) spp., medicinal plants, 602, 603, 1611, 1628, 2839k, 3211, 3869-3873
Red-currant—*see also Ribes*—
  composition, fruit, 1177, 2240
  growing—
    under glass, 1216s
    as hedges, 3458c
    in various countries, 219e, 3406
  mutations, 3207
  origin, 219b
  pests, 2443
  pollination, 2244, 3410
  propagation, vegetative, 1097
  soil management, weed control, 347
  varieties, 3458f
Reeds for staking tomatoes, 3742
Regeneration in delphinium, 2880
Rejuvenation of fruit trees, 3089, 4083

Replanting—*see also* Soil sickness—
deciduous fruit and nut trees—*see also* Apple *and* Peach *under* planting—2392, 3460
evergreen fruit and plantation trees—*see also* Citrus planting—4113
vegetables, 414
Report(s)—*see also* Annual Reports, Proceedings *and* Yearbooks—
adv. Cttee Rubber Ind. Malaya, 1909
biennial—
Citrus Exp. Stat., Shizuoka, 983
Illinois agric. Exp. Stat., 991
Kansas agric. Exp. Stat., 3226h
Ontario, hort. Exp. Stat. Prod. Lab., 3215
Cocoa Conf., London, 3039
Colonial Pesticides Res. Unit, 2020
Cttee Transactions in Seeds, 2025
Henry Doubleday Res. Ass., 3795r
indep. biol. Labs, Israel, 2018
Inst. Plant Breeding Cereal Prod., Bologna, 2058 l
Kimberley Res. Stat., W. Aust., 4183
Martin-Luther-Univ., Halle-Wittenberg, 997
Scottish agric. Improvement Counc., Fruit Trials Cttee, 3402
Station Agron. Biochim. vég., Antibes, 4191
Washington St. Coll., 2051-2053
Resins, sources and production, 647, 1656, 2300, 2840e, 2840i
Respiration—*see also individual crops under* physiology *and* storage—
flower, 1189
fruit—*see also* Apple—1159, 1189, 1529, 2052, 2219, 2716u, 2974, 3399
plant, 10, 507, 519, 563, 1029, 1082y, 1189, 1215, 1442, 1522, 2076, 2266, 2591, 2666, 2780u, 3101, 3722, 3748, 3831, 3836
root, tuber and bulb, 1189, 1476
seed, 1435, 2657, 4081
tissues, various, 3851, 3852
Reviews, book—
Bentley, M., Growing plants without soil (vermiculaponics), 3179
Bohn, R., Die Technik im Gartenbau, 3180
Busvine, J. R., A critical review of the techniques for testing insecticides, 3181
Buxbaum, F., Cactus culture: based on biology, 3182
Chandler, W. H., Evergreen orchards, 3183
Davidis, U. X., Epitrapesiai staphylai, 2000
Dengler, H. W., Handbook of hollies, 744
Dick, W. E., Atomic energy in agriculture, 964
Free, M., Plant propagation in pictures, 2003
Gangolly, S. R., and others, The Mango, 2004
Gardiner, G. F., Pictorial plant propagation, 967
Häckl, R., Der Hopfen, 3879
Hall, C. V., Horticulture laboratory manual, 3185
Helgeson, E. A., Methods of weed control, 2450
Reviews, book (*continued*)—
Hume, H. H., Citrus fruits, 969
Indian Council of Agricultural Research, Directory of the agricultural and animal husbandry research stations in India, 3186
Jacob, A., Magnesium: the fifth major plant nutrient, 4158
Jazvickij, M., Manuring orchards [Russian], 970
Jones, E. M., Outdoor chrysanthemums for garden and exhibition, 3187
Kenneth, J. H., A dictionary of scientific terms, 4159
Klitsch, C., Rietzel, P., and Diessl, G., Die Technik des Hopfenbaues, 3879
Knorr, L. C., Suit, R. F., and DuCharme, E. P., Handbook of citrus diseases in Florida, 1807
Kotte, W., Krankheiten und Schädlinge im Obstbau und ihre Bekämpfung. (Dritte Auflage), 3188
Krüssmann, G., Taschenbuch der Gehölzverwendung, 971
Lee, F. P., The azalea book, 4160
Leemans, J. A., and Nannenga, E. T., A morphological classification of raspberry varieties, 972
Mali, L., Maatalouden sanakirja, 4161
Meteorological Office, Air Ministry, Tables of temperature, relative humidity and precipitation for the world. Parts I, IV, V and VI, 3189
Metcalf, R. L., Advances in pest control research, Volume I, 2009
Milsted, M. F., Growing African violets in the home, 3190
Moreton, B. D., Beneficial insects, 4162
Morettini, A., and others, La coltura del pero in Italia, 2010
Organisation for European Economic Cooperation, Applications of atomic science in agriculture and food, 3191
Organisation for European Economic Cooperation, Marketing of fruit and vegetables in Europe, 2012
Pape, H., Leitfaden des Pflanzenschutzes im Zierpflanzenbau, 3193
Pearce, S. A., Climbing and trailing plants, 974
Perkow, W., Die Insektizide, 3194
Riess, E. M., The garden of chaparral, 3195
Rochac, A., Diccionario del café, 3196
Ruhland, W., and others, Handbuch der Pflanzenphysiologie, 3197, 3198
Rünger, W., Licht und Temperatur im Zierpflanzenbau, 975
Searle, S. A., and Machin, B. J., Chrysanthemums the year round, 976
Seitzer, J., Schüle, H., and Wenck, F., Farbtafeln der Birnensorten, 977
Spector, W. S., Handbook of biological data, 2013
Spencer, E. R., Just weeds, 4163

Reviews, book (*continued*)—
Steinmetz, E. F., Codex vegetabilis, 3199
Steinmetz, E. F., Materia medica vegetabilis, 2014
Thiem, H., Die Abbaukrankheiten des europäischen Obstbaues, 978
Thomas, G. L., Jr., Garden pools, water-lilies and goldfish, 4164
Thomson, R. H., Naturally occurring quinones, 4165
Treiber, E., Die Chemie der Pflanzenzell-wand, 3200
Unwin, C. W. J., Gladioli and dahlias, 979
Went, F. W., and others, The experimental control of plant growth, 980
Wilson, C. P. H., Bush peaches, 4167
Rhabditis sp. in mushrooms, 535s
Rhabdophaga spp. on willows, 3901, 3902
Rhagoletis—
cerasi, 1306
completa, 3538
pomonella, 306, 1280, 2415, 3518
spp. on cherry, 307, 2051
Rhamnus cathartica, 2469
Rhaphimatopus ablutella, 1950
Rheum maximoviczii, 2787
Rhizococcus cacticans, 3906
Rhizoctonia—see also Damping-off—
lamellifera, 1898
solani—see Corticium
spp., unspecified, 749
Rhizoglyphus echinopus, 3942
Rhizopus—
arrhizus, 3854
nigricans, 3398, 3701
spp., unspecified, 3397
Rhizosphere—*see under* Root
Rhodesia, Northern, Dep. Agric., A.R., 4200q
Rhodesia and Nyasaland—
crops, 1015p, 1790, 2238f, 3856h
fed. Minist. Agric., A.R., 2058g
fruits, indigenous, 4045d
Rhododendron—*see also* Azalea—
aureum, 3903y
diseases, 750, 2932
growing in the U.S.A., 753n
growth substance responses, 2852
leaf composition and toxins, 1082g
pests, 1782
photoperiodic responses, 2927
propagation by cuttings, 2942, 3972, 3992
tannin from, 3903y
Year Book, -Gesellschaft, 2941
Year Book, roy. hort. Soc., 1777
Rhopalosiphum insertum, 2401
Rhopalosiphum pseudobrassicae, 1304
Rhopobota naevana, 3984
Rhubarb—
composition, 3698
diseases, 464
forcing, 1468
growth substance responses, 2520
nutrition, 1468
varieties, 3795v
Rhus—see also Poison ivy
diversilobus, 4105
spp., tannin from, 645, 1665
spp., as weeds and their control, 3579
Rhynchophorus ferrugineus, 1998u
Rhynchophorus palmarum, 3069
Ribes—see also Black-currant, Gooseberry *and* Red-currant—
alpinum, 3590
sanguineum, 664
spp., cytology, 2158
spp., hybrids between, 2243
Riboflavin—*see under* Vitamin B
Ringing—
enzyme activity affected by, 16
herbaceous plants, 3819
trees for their destruction, 389e
vines, 1205
Road verges, plants and trees for, 2944j, 3997o
Roads, farm, construction of, 68x
Robinia pseud-acacia, 1783
Rodent(s)—
control, general, 1316y, 2051
control, repellents for, 1297
gophers, 338c, 3026b
hares, 1298
mice, 321, 1298, 2410, 2434, 3562u
moles, 338b
rabbits, 2448n
rats, 1924
voles, 4173
Rodenticides—
coumarin derivatives, 1924
endrin, 321, 2434, 3562u
insecticides other than endrin as, 2410
plant sources of, 1673e
thallium sulphate, 2117
Root(s)—
absorption—
of carbon dioxide, 1058, 3240
rhythm of, 1031
of water, 1081u
adventitious, 24
aerial, 1741, 2912
anatomy, developmental, 121, 3880
branching, seed treatment to induce, 1105
cation exchange capacity, 1081 l, 1871
cells and their development, 441, 2094
cuttings—*see under* Cuttings
diseases of fruit trees, 1316r
geotropic and spontaneous curvatures, 68j
grafting, natural, in deciduous trees, 122
grafting, natural, virus transmission by, 2331, 4000
growth, factors affecting—*see also* Apple—24, 120, 436, 1759, 1760, 1800, 1936, 2131, 2277, 2633, 2647, 3258, 3268, 3683, 3754, 3822
growth, observation box for studying, 3284
-inducing substances—*see under* Cuttings *and* Growth-substances
-leaf relationships in oil palms, 3098
nodule formation in leguminous plants, 2592, 3268

Root(s) (*continued*)—
nodule formation in non-leguminous plants, 753f, 1059, 2935, 3903d
nutrient uptake of excised, 848
physiology and metabolism, 1473, 2079
pruning, 2278
regeneration of plants from—*see under* Cuttings *and* Propagation
secretions, 1031, 1058, 2697, 2755
suckers, propagation from, 1104
systems—
of cuttings and seedlings compared, 3871
growth substance transfer between, 2092
micro-organisms within, 2886
nutrient transfer between adjacent, 3266
soil pH altered by, 2886
of tobacco, 1556, 3811
of trees and shrubs, 2177, 2178, 2246, 2275, 2276, 3026n, 3455, 4084
tissue culture—*see under* Tissue culture
velamen tissue, role of, 2912
Rootstock(s)—*see also* Interstocks—
characters and growth, scions affect, 4117
effects on scions—
anatomical, 2263
composition, 107
cold resistance, 719, 1797, 2323, 3672
disease and pest resistance, 786, 1795, 1811
drought resistance, 2169
fruit—
characters and composition, 2958
russeting, 2327
yield, 204, 484, 3307, 4174
growth habit, 2174
physiological, 2263
pollination, 1114
spray damage susceptibility, 326
vigour, 91, 92, 719, 2959
identification, 763, 1841e
for plants—
annuals or herbaceous—*see also* Tobacco *and* Tomato *under* rootstocks—3672, 3874, 3934
trees and shrubs—*see* Almond, Apple, Apricot, Avocado, Cacao, Cherry, Citrus, Mango, Olive, Peach, Pear, Plum, Rose, Vine *and* Walnut
-scion interrelationships—
alkaloids synthesis and distribution, 1027, 2748, 3934
comparative trials and general studies on, 103, 110, 1102, 1794, 2239a, 2958, 2959, 3026d, 3026e, 3289, 4062
incompatibility, 93, 100-102, 109, 425, 766, 2937, 3314, 4006
in inter-family combinations, 2668, 2669, 3934
on inter-generic combinations—*see also* Apple, Citrus *and* Pear—1028, 3743, 3744
physiological aspects, 1441, 2077, 2078, 2080
reviews on, 90, 2239e
Rootstock(s)—scion interrelationships—(*continued*)—
stem effects in, 766, 2169, 4117
virus diseases of Citrus—*see under* Citrus, diseases, virus
woody, herbaceous scions on, 3744
Rosa—
afzeliana, 719
alba, 753z
damascena, 753d, 753z
gallica, 2925
hugonis, 1676
indica, 1748
moschata, 1746
moyesii, 1747
multiflora, 2921, 3965
rugosa, 158
spp., disease resistance, 3965
Rosaceae, edible species in the Arctic, 3229
Rose—
Annual, nat. Rose Soc. G.B., 2918
climate, temperature responses, 2920
diseases—
bacterial, 3908
fungus, 663, 1005, 1751, 1752, 2038, 2856, 2922, 2923, 3908, 3965, 3966, 3997k
in Morocco, 753g
virus, 1750
flower(s)—
colour, factors affecting, 2920
composition, 3967, 3968
cut—
packing and storage, 665, 1752
plastic sprays affect, 3916
prolonging life of, 664, 1752, 2859
senescence, chemical changes associated with, 723, 1752, 3967, 3968
pigments, 2944o
variegation, 1750
fruit composition and utilization, 158, 1152, 2926, 3969
growing—
under mist, 721, 1751
a review, 718
in various countries, 753d, 753z, 2841
growth, growth substances affect, 720
leaf ageing, chemical changes during, 723
mercury paint vapours injure, 2855, 3996j
nutrition, manuring and major elements, 754i, 3913
nutrition, minor elements, 722, 2125
oil, 753d, 753z, 754k, 1749, 2798, 2925
packing plants, 3996z
pests—
aphids, 3642, 3908
in Morocco, 753g
nematodes, 2924
physiology, 721
planting, spacing, 1749
propagation by budding or grafting, 1748
propagation by cuttings, 1676, 1747, 2921
pruning, 3996s
research in Holland, 3905-3907
rootstocks, 719, 4181

Rose (*continued*)—
seed germination, 1081a
seed testing, 3400v
soil management, mulching, 53
soil management, weed control, 2472, 2473
storage of plants, 720, 2923
varieties, 1746, 2919
Rosellinia bounodes, 3082
Rosemaund exp. Husbandry Fm, N.A.A.S., work at, 1081k
Rosewarne exp. Hort. Stat., N.A.A.S., A.R., 2046, 3227
Rotations, crop responses to, 3627, 3700
Rotations, principles underlying, 3796o
Rothamsted exp. Stat., A.R., 4188
Rotylenchus reniformis, 4114
Rubber—
Industry, Malaya, Rep. adv. Cttee, 1909
plants—*see also separate plants*—of Canada, 1656
plants, surveys of potential, 635
Research Inst. Malaya, A.R., 4116
synthesis, enzymes associated with, 3176x
Rubidium in plant nutrition, 35, 2121, 3312, 4129
Rubus—see also under Small fruits *and individual fruits*—
lasiocarpus, 3407
spp.—
aphid resistance, 1316u
in Belgium, 4200 l
cytology, 2158
flower bud development, 187
Rudbeckia, growth substance and light responses, 2108
Rumania, crops, deciduous fruit, 1092
Rumex hymenosepalus, 2835
Rumex spp., control, 1346
Rural Industries Bureau, A.R., 4200v
Russia—*see* U.S.S.R.
Russian comfrey (*Symphytum* sp.), 3623, 3795r
Rutabaga—*see* Swede
Rutin in plants, 1579, 3829, 3830

Saanichton Domin. exp. Fm, B.C., A.R., 1006, 4189
Sabulodes caberata, 759
Saccharicoccus sacchari, 1949
Saccharomyces ellipsoideus, 2264
Safflower—
diseases, fungus, 2831
growing in various countries, 1672h, 3903j
growth substances in, 2831
research in various countries, 984, 4200j
Safrole from *Cinnamomum* spp., 1630
Sage—*see under Salvia*
Saharanpur Fruit Res. Stat., A.R., 2047
St. Helena, agriculture, 2006
Saintpaulia—
a book on, 3190
chlorophyll breakdown, 695
cytology, 3996 l
growth substance responses, 1051, 2850
light and temperature responses, 660, 695, 3905
Saintpaulia (*continued*)—
propagation, 1709
varieties, 3906, 4174
Saissetia oleae, 338e, 1295, 1819
Salinity—*see* Salt *and* Soil salinity
Salix—
alba var. *caerulea* (cricket bat willow), 1671
fragilis, 751
purpurea, 3901
spp., control of unwanted, 1328
spp., pests, 3901, 3902
triandra, 3902
Salt(s)—*see also* Chloride, Sodium *and* Soil salinity—
excess in soil, determination, 3730
excess in soil, peat corrects, 3796y
tolerance and injury of plants, 529, 774, 1512, 1688, 2156, 2282, 2611, 2865, 2887, 2964, 2969, 3467, 3629, 3630, 3730, 4172
tolerance of nematodes, 4021
El Salvador, crops, 873
Salvia—
occidentalis, 1710
officinalis, 3903c
spp.—
ornamental, propagation by cuttings, 654
physiology, 1679, 1710, 2041, 3241, 3927
weed control, 2468
Samolus parviflorus, 2103
Sampling—*see* Statistical methods
Sanguisorba canadensis, 2072
San José scale control, 1294, 2432, 2449f, 3561o, 3561p
Sanninoidea exitiosa, 2305, 3527
Sansevieria—
diseases, 2945k
harvesting, 615
pests, 2858, 3907
planting, spacing, 615
species and varieties, 2945q
Santalum spp., essential oil from, 1611
Santolina spp., growth substance responses, 2852
Santonin from *Artemisia* sp., 2789
Sap flow, apparatus for measuring rate of, 3239
Sapindus trifoliatus, 638
Sapodilla, fruit composition, 4155
Sapodilla growing in India, 958
Sapogenins, steroidal, plant sources of, 594
Saponins in plants, 2787, 2788, 2944w
Sapotaceae, edible fruits of, 1998o
Sappaphis devecta, 2407
Sawdust—*see also* Mulching materials—as a soil amendment, 2279
Saxifraga cordifolia, 1030
Scale insects—*see also* San José *and other individual species under scientific names and also hosts*—control, 747, 2016
Scapteriscus spp. on lawns, 3961
Scaptocoris castaneus, 1951
Scaptomyza graminum, 1497
Sceleron latipes, 1589
Schaffhausen, experimental vineyards at, 3459e
Schinopsis spp., tannin biogenesis, 2840f
Schinus molle, 2839t

Schizandra chinensis, 158, 648
Schizanthus spp., gibberellin responses, 2850
Schizotetranychus andropogonii, 1997c
Schizura ipomaeae, 337r
Schneidereria pistaciella, 2449i
School gardens, crops, 1170m, 1171
Sciadopitys verticillata, 2928
Sciadotenia spp., alkaloids, 1672i
Scientific Horticulture, 1957-58, 3210
Scindapsus spp., light responses, 3905
Scirpophaga spp. on sugar cane, 1999c
Sclerocarya birrea, 4045d
Sclerotinia—see also Monilia—
camelliae, 3976
fructicola, 256, 259, 267, 2369, 3499
fructigena, 266, 2367, 3498
fuckeliana, 3513
gladioli—see Stromatinia
homoeocarpa, 3955-3957, 3960
laxa, 1248, 2367, 2368
sclerotiorum, 1475, 2558, 2784, 3654, 3659
spp., unspecified, 2305, 2370, 2716q, 3397
vaccinii-corymbosi, 2374
Sclerotium—see also Damping-off—*cepivorum*, 463, 2622
Sclerotium rolfsii, 589s, 1785b, 3963
Scolia oryctophaga, 2026
Scolytus rugulosus, 3527
Scopolia lurida, 1629
Scotland—*see also* North *and* West, *and under* Great Britain—Dep. Agric., agric. Statistics, A.R., 3226d
Scottish—
agric. Improvement Coun., Fruit Trials Cttee, Rep., 3402
hort. Res. Inst., A.R., 1007, 4190
Plant Breed. Stat., A.R., 4200w
Scutigerella immaculata, 337v
Scyphophorus acupunctatus, 616
Seaweed—
composition, 3904a
drying, 3903q
utilization, 2528
Securinega suffruticosa, 604
Sedum spp., physiology, 2078, 2097
Seed(s)—
-beds, mulching, 3857
-beds, weed control in—*see* Weed control in specific areas
boxes, aluminium covers for, 3915
boxes, paper partitions for subdividing, 2141
cleaning, 39, 3749
composition—
carbohydrates, 2717b
enzymes, 2716s, 3796d
growth substances, 474, 2238 l, 2243, 2651, 2716e, 3625, 3727
sterols, 3903u
tannins, 3451
counting, a device for, 2146o
development rate, cross- and self-pollination affect, 2243
development and ripening in the fruit, 2179, 2586
Seed(s) (*continued*)—
dormancy, after-ripening and dormancy breaking—*see also below*, germination—40, 694, 706, 1112, 1707, 2649, 2650, 2727, 4106
drills, 2637
embryo—
culture, 761, 3317
development in plants, 1785k
nucellar, pollen parent affects development of, 2971
sac development, 1786h
endosperm, cell wall structure, 3027c
endosperm, growth substances in, 2238 l
germination—
aeration affects, 2646, 4106
air pollution improves, 731
annual periodicity in, 2845
biochemical processes during, 649a, 649b, 1048, 1082i, 1672v, 2653, 2659, 2660, 3622, 4107
drying treatment affects, 3706
enzyme activity during, 534x
epicotyl dormancy following, 752, 1707
gas storage affects, 3392
harvest date affects, 3097, 3918
herbicides affect, 2511c, 2908
humidity affects, 1383
inhibitors, 40, 474, 534x, 752, 1860, 2116, 2602, 2652
insecticides affect, 3692
light affects, 475, 694, 1032, 1048, 1490, 2115, 2584, 2647, 2652, 2917, 2928, 3577, 3626, 3724, 3725
magnesium affects, 387
media, 1745, 1878
packing and despatch after, 960y
plasmodesma deformation affects, 4080
in plastic bags, 2944d
presence of other seeds affects, 3625
rate, seedling vigour affected by, 1990
respiration during, 2657, 2659
reviews on, 968
seed size in relation to, 4079
temperature affects, 1434, 1860, 2649, 2658, 3808, 3945, 4106
tests—*see below*, testing
thallium sulphate affects, 2117
vitamins affect, 1740
viviparous, 534u
oil—*see* Oil, seed
ovule culture, 2113
packing, 960y
physiology—
protein metabolism, 3198
respiration—*see also above*, germination—1435, 4081
ripening in the fruit, 2179, 2586
producers, Austrian, Proc. Mtg, 3226a
production—
asparagus, 1394
carrots, 3708
cucurbits, 1414
flower crops, 3918

Seed(s)—production (*continued*)—
growth substances affect, 2097, 2520
lawn grasses, 3997d
onions, 458, 3699
tobacco, 3800, 3856f
various crops, 593, 3860
quality—*see also below*, testing—38, 2518, 3285e
shape, shade affects, 4086
size, factors affecting, 1706
size and maturity, plant growth and yield related to, 2518, 4079
sorting, machines for, 1081f, 3682
sowing in seed boxes, device for, 2140
sterility, causes of, 3898
storage and longevity, 740, 748, 960h, 1383, 1489, 1827, 2147d, 2629, 2726-2728, 2948, 2979, 3097, 3214, 3624, 3691, 3726, 3857, 3945, 4080, 4151, 4173
testing—
international aspects, 1056
methods, 1081a, 1081n, 2114, 3400v, 3796a
in various countries, 38, 534z, 3226o, 3285e, 4173
transactions in, Rep. Cttee, 2025
treatment—*see also below*, vernalization—
with antibiotics, 444, 1486, 1689, 2020, 2517
with bacteria, 38, 1386, 2802
with calcium hypochlorite, 2911
with carbon monoxide, 2570
with caustic soda, 1829
with colchicine, 1393
with copper chloride, 2654
with coumarin, 2656
with electricity, 2571
with fumigants, 2146z
with fungicides and bactericides, 427, 1384, 1385, 1407, 1445, 1447, 1486, 1545t, 1689, 2554, 2577, 2593, 2911, 3691, 3709, 3935, 3951
with fungicide and insecticide mixtures, 449, 2576, 2577, 3208
with growth substances, 437, 514, 825, 1047, 1048, 1051, 1112, 1440, 1707, 1740, 2097, 2099, 2110, 2116, 2647, 2649, 2650, 2652, 2718c, 3636, 3724
with hot or cold air, 694, 2649, 3317, 3423, 3706, 3748, 3791
with hot or cold water, 427, 822n, 957, 1447, 1448, 1959, 3808, 3935, 4151
with insecticides, 450, 534o, 2020, 2042, 2598, 2629, 3644, 3693, 3704
by irradiation—
with gamma rays, X-rays, etc., 1041-1043, 1382, 1672z, 1729, 2631, 3268, 3747
with infra-red rays, 1454
with ultrasonic waves, 396, 1057, 2517
with minor elements, 2126, 2672
pelleting, 3644, 3704
with plant extracts, 1415, 2729
with potassium compounds, 1829, 2955
with purine derivatives, 2718b, 2718c
Seed(s)—treatment (*continued*)—
a review on, 1082d
seed coat removal, cracking or scarification, 694, 706, 752, 761, 1435, 1829, 1959, 2948, 2955, 3857
with sodium compounds, 544, 1829, 2911, 2955
stratification, 740, 1178, 2254, 3024
with sulphuric acid, 694, 957, 1783, 1829, 3423
with thiourea, 2654-2656
for virus control, 514
with vitamins, 2525, 2655
vernalization—
auxin formation affected by, 2651
fruit storage disorders in relation to, 173
photoperiodism in relation to, 2664
of plants—*see also* Temperature responses—
chenopodiaceous, 479, 3737
cruciferous, 2047, 2074, 3716
legumes, 1545a, 2047
rosaceous, 173
solanaceous, 2074
Seedlings, epicotyl dormancy, 752, 1707
Senescence in flowers, 723, 1752, 3967, 3968
Septoria—
apii, 1387, 3660
depressa, 1841m, 3033
lycopersici, 518, 1502, 2701, 3782-3784
ribis, 2375
Sericesthis pruinosa, 1739
Sesamum indicum (sesame), 649m, 1611, 1672e, 3927
Setaria spp., effect on crops, 3617
Setora nitens, 4157p
Sewage for composting and manuring, 1681
Shade—*see also* Light—
nutrition and composition of crops in relation to, 960d, 1871, 1973, 1974, 2692, 4086
plant requirements and responses—*see also* Cacao, Coffee, Tea *and* Tobacco *under* shade—2891, 2893, 4111
trees and plants—
Albizzia spp., 3080, 3148
Calliandria spp., 1871
Inga spp., 1871
Moghania spp., 1879
various, 1963, 3148, 3997o
Vernonia monocis, 1672b
Shallot—
diseases, 462
× onion hybrid, 462
pests, nematodes, 408
Shasta daisy—*see under* Chrysanthemum
Shea-butter tree (*Butyrospermum parkii*), 1996, 2832, 2833, 4178
Shelter belts—*see* Windbreaks
Shepherdia spp., root nodules, 1059
Shorea spp., oil-bearing nuts, 2021, 3900
Shrubs—*see* Trees and
Sida carpinifolia, 1580
Sierra Leone, crops, 840

Sierra Leone Dep. Agric., A.R., 2058r, 3226m
Silene spp., flowering, growth substances affect, 1033, 2103
Silicates in plant nutrition, 1518
Silicon determination, 1082x
Silicone coatings, horticultural uses of, 1080
Simmondsia chinensis, 2834
Singapore bot. Gdns Dep., A.R., 1015q
Sisal—
  fibre yield, 3903n
  hecogenin (cortisone) from, 1613
  other *Agave* spp. compared with, 3878
  production and trade, 3903e
  research in East Africa, 616, 4182
  research in Jamaica, 4180
  soil management, weed control, 2020, 3600
Sitona lineatus, 450
Skierniewice Res. Inst. Pomol., work at, 70
Sloe × plum hybrids, 1095
Slugs and their control, 337e, 1744, 2449a
Small fruits—*see also separate crops*—
  breeding and selection, 2239 l, 3404
  disease and pest control, 3796m
  flower bud development, 3321
  packing containers, 1010
  research in the U.S.A., 2052
  in school gardens, 1171
  soil management, weed control, 1318
  spray programmes, 1316c
  spray residues, 335
  storage and transport, 1010, 1181, 2241
  varieties, 1169a, 3402
Smog—*see under* Air pollution
Snails and their control, 337e, 990, 1744, 1844, 2449a
Snapdragon—
  breeding, 1786s
  diseases, fungus, 697, 3908
  flowering, reflected light advances, 3914
  flowers, cut, geotropic bending, prevention of, 2885
  flowers, nectar secretion, 3933
  nutrition, 2861, 2884, 3933
  physiology, light responses, 2883, 3914
  physiology, temperature responses, 2882
  soil waterlogging, 696
  varieties, 3905
  weed control, 356, 2468
Sodium—*see also* Salts—
  content of plants, factors affecting, 404
  determination, 1060
  nutrition of plants, 68w, 529, 560, 561, 1518, 2121, 2127, 3707
  radioactive, 68w, 2121, 3312
Soft fruits—*see* Small fruits *and individual crops*
Soil(s)—
  aeration, 3765
  amendments—*see below*, conditioners
  analysis as a guide to plant nutrition, 139
  a book on, 3219
  calcareous, investigations on, 4191
  compaction, 1556, 4179
Soil(s) (*continued*)—
  conditioners and amendments—
    Aerotil, 1553
    Biohum, 2870
    Goodrite, 1553
    HPAN, 2528, 2921
    Krilium (CRD189), 212, 1553, 3766, 4195
    seaweed meal, 2528
    Stabilose, 2146c
    VAMA, 2528, 2921
    various, 2279
    wood shavings, 2891
  conductivity, 2695, 3730
  (and water) conservation—*see also* Planting, contour—
    for annual crops, 1555, 1564
    soil stabilizer to assist, 2146c
    for tropical plantation crops, 4085, 4156n, 4157r
  contamination with radioactive isotopes, 2120
  cultivation *vs.* non-cultivation in orchards, 3349
  drainage, 180q
  fertility, improvement, 3159
  fertility, indicator plants for, 2198
  fungi, control of, 2009
  heating with—
    composted organic materials, 1488
    electricity, 726, 1416, 2146h, 2393, 2849, 3280
    steam, low-pressure, 2515
    steam-air mixture, 62
  micro-organisms, soil management practices affect, 1123
  moisture—*see also below*, water—
    availability, 1066
    bud burst affected by, 3353
    determination—*see also* Irrigation needs—146, 960b, 1841i
    distribution, determination of, 4129
    extraction by plants below wilting percentage, 1936
    plant composition affected by, 3352
    soil management affects, 3207
  pH, plant needs and responses, 551, 656, 2624, 2842, 3121
  pH, plant roots alter, 2886
  physical variables and productivity, 138
  potting, 2132, 3939, 3979
  salinity, 1512, 2281, 2282, 3629, 3630
  sickness—*see also* Replanting—228, 291, 1005, 3460, 3461
  sterilization—*see also* Fumigation, soil, *and* Herbicides—
    by electricity, 405
    by steam, 54, 510, 2682, 2691, 3768
    by various methods, 340
  structure, root penetration in relation to, 2131
  structure, soil management affects, 3207
  surveys for fruit, 138
  surveys for sugar cane, 4130

Soil(s) (*continued*)—
temperature—
crop responses, 2515, 2674, 2684, 2685, 2849
factors affecting, 2257
tanks for controlled, 3282
types for putting greens, 3996x
variation, cultivation and cropping to reduce, 3290
water—
-logging, crop responses to, 696, 2448e' 3155
penetration into, factors affecting, 778, 3026z
-table, crop responses to, 120, 2282, 2625
Soilless culture—
aeration in, 1374
a book on, 3179
of crops—
mushrooms, 2605
ornamentals, 657, 2847, 2945u, 3905, 3906, 3919, 3920, 3937
vegetables, 394, 1373, 2569, 3268
in Japan, 394
nutrients and media for, 625, 657, 2128, 2569, 2847, 3261, 3912
for nutritional studies, 551, 556, 1081t, 1513, 1518, 1805, 1976, 2120, 2128, 2129, 2731, 2734-2737, 2951, 2963, 3076, 3913, 4121-4123
a review on, 3180
Solanaceous plants, alkaloids and their determination, 2840j, 3903v
Solanaceous plants, grafting—*see* Grafting
Solanum—
carolinense, 1368c
macranthum, 532
nigrum, 1028
pseudocapsicum, 2097
quitoense, 532, 1785i
spp., seed germination, 2845
torvum, 532
Sophora japonica, 1322, 2786
Sorghum halepense, 1354
Sounds—*see also* Ultrasonic—musical, plant responses to, 1690
Soursop (*Annona muricata*), 1009
South—
Africa(n)—
crops, citrus, 1790
Journal of Agricultural Science, a new periodical, 4199
Sugar Ass. Exp. Stat., A.R., 1931
Sugar Year Book, 1928
Australia—*see also under* Australia—Minist. Agric., A.R., 1015r
Pacific territories, crops, 533, 955, 4156o
Southern Rhodesia—*see* Rhodesia
Spacing—*see individual crops under* planting *or* spacing
Spain, crops, fruit, 822s, 2030, 3026 l, 3026t
Spain, crops, various, 1659, 2030
Span, a new periodical, 4198
Spearmint—*see under* Mint
Spectrographic analysis and spectrography, 534q, 1020, 1082m, 1082n, 3233
Sperganothis pilleriana, 3562c
Sphaeroblasts on trees, 1169e
Sphaerotheca—
humuli, 1254, 2380
mors-uvae, 275
pannosa, 478, 1752, 2856, 3966
Spice plants—*see also separate plants*—in tropical countries, 996
Spices, technology of, 590, 1603, 2781
Spilonota ocellana, 1317g
Spinach—
composition, plant, 589f, 1391, 1496, 2536
flower bolting, 479, 2664, 3737, 3738
flowering, nutrition affects, 44
growth substance responses, 3636, 3738
herbicide injury, 342, 384, 3214
history, 1546k
nutrition, 44, 403, 1377, 3635
pests, 1497, 2717d, 3739, 4184
physiology, light and temperature responses, 2664, 3737
processing, 391
research in Holland, 1495
root growth, 2131
seed—
germination, 3625
storage, 3624
treatments, 479, 1384, 2664, 3737
soil management—
irrigation, 1380
mulching, 53
weed control, 342, 384, 2491, 3214
spray residues, 3790
storage, 1391
varieties, 391, 1546k, 2663, 4190
Spiraea—
growth substance responses, 2851
pests, 1756
weed control, 2470
Spongospora sp. on watercress, 3622
Spray(s) (ing)—
application from aircraft—*see* Aircraft
concentrate and low-volume, 314, 1308, 2386, 2440
coverages or deposits, 330-332, 337o, 337s, 337x, 1308, 1311, 1316h, 1316i, 2386, 3054, 3561w
equipment—*see also* Dusters—
economics of, 147
for experimental purposes, 1006, 2453
high clearance, 522
knapsack, 325, 833, 854, 1308, 1316d, 2448w
lances, 325, 826
for long-distance application, 1307
low-volume, 337g, 833, 878, 1316d, 1847, 1849, 1953, 2054, 2448w, 2449m, 3054, 3562m
nozzles, 323, 337p
for orchard and plantation crops, 322, 822j, 878, 1307, 1316f, 1316g
pumps, 324

Spray(s) (ing)—equipment (*continued*)—
research in Great Britain, 4186
review on, 3561y
testing, 580
injury to plants, chemistry of, 3555
injury to plants, factors affecting, 2318, 2439, 3031, 3559, 3560
materials—*for particular chemicals see* Acaricides, Fungicides, *etc.*—compatibility, 314
methods, a review on, 322
particles, studies on, 3561w
programmes—
for citrus, 791, 822v, 823a
for deciduous fruits, 1316c
for small fruits, 1316c
pruning and training of crops in relation to, 2376
residues—*see also particular crops and types of sprays*—on plants and in foods and their determination, 333-336, 649f, 1312-1314, 1368o, 2009, 2020, 2041, 2447, 3643, 3644, 3658, 3790, 4034
residues in soil, 333, 499, 1315, 2446, 2448m
wind drift, 2453
Squash (*Cucurbita moschata* and *C. pepo*)—*see also* Cucurbits, Marrow *and* Pumpkin—
diseases, 426, 2717z
flavour, pesticides affect, 2534
fruit development, 530
growth, factors affecting, 2717o
nutrition, 426, 2717o, 2717z
roots, absorption and excretion, 1031
as rootstock for cucumber, 1414
seed storage, 3624
seed treatments, 2576
Staining, technique of biological, 2144
Starch—
determination, 589o, 4156a
formation in leaves, 1786p
metabolism, 153, 1224
plant sources of, 3904b
Starter solutions, 1516, 2673, 2685
Statice, 1711, 1712, 4174
Station Agron. Biochim. vég., Antibes, work at, 4191
Statistical—
analysis of trials, 182, 1017, 2062
design of trials, 4, 6, 68p, 182, 204, 205, 219d, 2152, 2665, 3285d, 3285f, 3458k
methods for—
comparing yields, 3289
crop surveys, 905
estimating leaf area, 2154, 3813
estimating missing values, 2147i
measuring shoot growth, 2153
measuring tree growth, 3289
pest and disease studies, 1997b
plant variability studies, 3
sampling, 5, 1873, 1997b, 2153, 2154, 2839e, 2906, 3146, 3288
variation, soil cultivation and cropping affects, 3290
Statistics—*see* Agricultural statistics *and* Trade, *and for their use in experiments*, Statistical
Stellaria media, 371, 372, 2469, 2486, 3589
Stem-builder—*see* Interstock
Stemphylium—
botryosum, 3796 l
radicinum, 1475, 3709
solani, 512
sp. on onion, 534d
Stephanitis typicus, 3067
Stephanoderes hampei, 1883, 4095
Stereum purpureum, 4174
Stereum sp. on apple and pear, 131
Sterols in seeds, 3903u
Stethoconus sp., unspecified, 4096
Stethorus picipes, 2395
Stock (*Matthiola* spp.)—
flowers, keeping quality, 2859
growing under plastic, 1713
growth substance responses, 667
nutrition, 2887
root systems, micro-organisms within, 2886
salt injury, 2887
seed germination, 3918
varieties, 3905
weed control, 2468
Stomatal—
movements, 25, 26, 661, 1036, 2041, 2081, 3127
size, measurement of, 1079
size and number, fluoride injury related to, 705
Stone fruits—*see also separate fruits*—
breeding and selection, 2239d, 2239 l
composition, 3401j
diseases, fungus, 256
diseases, virus, 2332, 4195
fungicide responses, 329
growing in Southern Rhodesia, 2238f
pests, 2051, 3526
spray programmes, 1316c
Storage—
buildings and chambers—*see also below*, gas—
air purification in, 166, 181b, 1168, 1169b
cold, 163, 180s, 1072, 1169d, 2238t
deodorization of, 1824
fumigation or disinfection of, 311, 2222, 3562s
humidity control in, 1168
linings for, 3392
plastic-covered, 3203
tents as, 180h
clamps, 1165
coatings, 797, 1823, 2947
cooling and pre-cooling methods and responses, 181e, 411, 1076, 1158, 1181, 2225-2227, 2234, 2241, 2250, 2620, 2995, 3390, 3397, 3426, 3735, 3736
dips, 287, 471, 802, 808, 1475, 2041, 2953, 3026h, 3392
diseases and disorders—
ammonia gas to prevent, 798-800

Storage—diseases and disorders (*continued*)—
cathode ray irradiation for controlling, 2370
gamma radiation for controlling, 42, 1169y, 3395
reviews on, 163
dual temperature, 1162, 1163, 2231, 2232
ethylene used in, 177
frozen pack, of vegetables, 3214
of fruits, reviews on, 163, 1169t
gas, 164-166, 170, 180h, 181b, 817, 837, 998, 1161-1163, 1839, 2222, 2236, 3391, 3392, 3399, 3400m, 3426, 3450
liners and bags, plastic—*see under* Plastic
losses of vitamin C in, 1391, 3969
of nursery stock—*see* Nursery stock
pests and their control, 311, 864, 1997w
physiological and biochemical aspects, 163, 1164, 2216, 2219, 3197
of vegetables, reviews on, 68d, 3457
wraps, 170, 2041, 2232, 3177f
Straw—*see also* Mulching materials—as a potassium source, 2201
Strawberry—*see also Fragaria*—
breeding and selection, 1216p, 2253, 2302a, 3421
climate—*see also below*, physiology—
microclimate, 2257
spring frost protection, 2322
wind protection, 1228
composition, fruit, 195, 2240, 3369, 3425, 3458 l
composition, leaf, 276, 3424
diseases—
cause uncertain, root rots, 295
cause uncertain, stigma infection, 337i
fungus—
charcoal rot (*Botryodiplodia phaseoli*), 2449q
fruit rot (*Rhizopus nigricans*), 42
grey mould (*Botrytis cinerea*), 42, 276-278, 2038, 2378, 3403, 3509, 3562d
leaf blotch and petiole blight (*Gnomonia fructicola*), 3510
leaf scorch (*Diplocarpon earlianum*), 3509
leaf spot (*Mycosphaerella fragariae*), 276, 2379, 3509
powdery mildew (*Sphaerotheca* spp.), 1254, 2380
red core or red stele (*Phytophthora fragariae*), 1007, 2377, 3562b, 4190
wilt (*Verticillium* spp.), 2253, 3508
general, 1316o
non-parasitic, genetical breakdown, June or transient yellows and streak, 1316t, 2255
virus, 337j, 1242, 1316l, 1316m, 2053, 2335-2338, 2448x
economics, 188, 2027
flower bud initiation and development, 2254, 2256, 2258, 2337
forcing, 2027, 2259
Strawberry (*continued*)—
fruit—*see also above*, composition—
ascorbic acid biosynthesis, 3425
grading, 2301y
harvesting, 992
malformation, fungus causes, 337i
marketing, 3379
packing, 196
quality, factors affecting, 1179, 2258, 3426, 3458 l
size, runner removal increases, 2258
storage, 42, 1168, 3426
fumigation, 295, 300, 301, 1268
growing—
in the Arctic, 3406
under glass and plastic, 2259
in Great Britain, 188, 3458n
machines for, 1073
in North America, 219c, 1545f, 2301d
growth—*see also above*, flower bud, *and below*, runner—measurements, nutrition in relation to, 3424
growth, root, 191, 1179
herbicide injury, 2462, 2463, 3571, 3584, 3585
leaves, leaflet grafts on, 2335
nutrition—
foliar, 45, 3269
manuring and major elements, 45, 194, 195, 1179, 2448 l, 3403, 3405, 4195
minor elements, 3424
pests—
aphids (several species), 1304, 2448x
Cnephasia wahlbomiana, 2420
leaf miner (*Tischeria* sp.), 3562r
leaf roller (*Argyrotaenia velutinana*), 2443
meadow spittlebug (*Philaenus leucophthalmus*), 2443
mites (*Tarsonemus* and *Tetranychus* spp.), 299-302, 1084, 1266-1268, 1304, 2051, 2400, 2440, 3525, 3526
nematodes, 295, 2391, 2945e
raspberry bud weevil, 3526
physiology—
photoperiodic responses, 3423
temperature responses, 2254, 2256
water relations, 2258
planting—
dates, 3422
stock—
heat treatment, 295, 2337, 2391
production of certified, 219p, 2448q
storage, 3422
virus-free and commercial compared, 2336
systems, 2038, 2258, 3403
propagation by crown cuttings, 2255
propagation from undifferentiated runner tips, 2255
research in Belgium, 4175
research in Great Britain, 1007, 4190
runners—*see also above*, planting stock—
formation, growth substances or herbicides affect, 1180, 2032, 3584
formation, temperature affects, 2256

Strawberry—runners (*continued*)—
removal, 2258
seed treatment, 1178, 2254, 3423
soil—
management—
crop rotation, 219v
general, 2188
irrigation, 2257, 2258, 3510
mulching, 53, 192, 193, 195, 219a, 398, 1338, 2257, 2258, 3510
weed control, 339, 340, 342, 347, 351, 352, 1318, 1320, 1337, 2046, 2461-2463, 2486, 3405, 3564, 3567, 3568, 3584, 3585
temperature responses, 2257
soilless culture, 1374
spray injury, 276
varieties—
in Canada, 219c, 3203
disease-resistant, 3562f
early-ripening, 3421
in European countries, 189, 1216m, 1216r, 2038, 2046, 2716d, 3402, 3458 l, 3459f
in Japan, 2302a, 2302b
Juspa, 3458r
Madame Moutot, 190
in North Africa, 392, 3458q
for processing, 79, 3458g
Red Gauntlet, 1007
in tropical countries, 4168
in the U.S.A., 1216t, 3459g
in the U.S.S.R., 3419, 3420
Strelitzia reginae, 753w
Streptocarpus spp.—
flower colour, 1785s, 1785t
genetics, 3996u
physiology, 2944s
Stromatinia gladioli, 1724, 2896, 3944
Strontium—
absorption and translocation, 2717k, 3285t
radioactive, 1039, 3312, 3795x
in soils and plants, 2120, 2121, 3795x
Strophanthus spp., medicinal plants, 605, 1611
Strychnos nux vomica, 638, 1611
Strychnos spp., alkaloids, 1672i
Stylosanthes gracilis, 3148
Subtropical fruits in the U.S.A., 3177j
Succulence in plants, physiology of, 2944v
Succulents, growing in France, 2841
Sucrose—*see also* Sugar—
foliar application, 20, 2684, 3683
synthesis in plants, 649c
utilization by plants, 3285r
Sugar(s)—*see also individual sugars and* Carbohydrates—
cane—*see* Sugar-cane
determination and separation, 589o, 1018, 1432
in fruit, 3407, 3425
growth promoting effects of, 3727
Ind. Res. Inst., Mauritius, A.R., 4125
maple—*see* Sugar-maple
in plants, day-length affects, 2079
Sugar(s) (*continued*)—
Planters' Ass. Exp. Stat. Cttee, Hawaiian, A.R., 1929
radioactive, 2268
translocation in plants, 1022, 2268
treatment of cut flowers, 2859
Year Book, South African, 1928
Sugar-cane—
bagasse—*see also below*, by-products—827, 3119, 3177h
breeding and selection—
in Australia, 3124
general aspects and methods, 908, 3176j, 4125
in India, 908
reviews on, 961b
wild relatives for, 3122
by-products—*see also above*, bagasse—827, 959t, 960s, 4157b
climate—*see also below*, physiology *and* soil management, irrigation—
cold resistance, 1937
drought responses, 1936, 1937
rainfall responses, 907, 922
sucrose content in relation to, 3128
wind injury and its prevention, 1999k
composition—*see also below*, juice, sucrose *and* nutrition—
carbohydrates, 4131, 4156a
changes during growth, 923
fibre, 932, 1998s
organic acids, 4125
phenolic compounds, 4156z
of setts, 3126
various elements, 931, 1081w
diseases—
bacterial mottle (*Erwinia* sp.?), 936
bacterial, red stripe and top rot, 4138
cause uncertain, albinism, 960o
fungus—
leaf scorch (*Stagonospora sacchari*), 3121
pineapple disease (*Ceratostomella paradoxa*), 4125
red rot (*Physalospora tucumanensis*), 933, 937, 1947, 1948, 3176n
smut (*Ustilago* spp.), 1948
non-parasitic, droopy top, 3176t
varietal resistance, 910, 936
virus, chlorotic streak, 3139, 4125, 4136
virus, ratoon stunting, 933-935, 1011, 1945, 1946, 3138, 3139, 3218, 4125, 4137
economics, 4126, 4156t
factory wastes—*see also above*, bagasse, *and below*, nutrition—as manures for crops other than cane, 942, 1906
flowering and its control, 925-927
growing in—
Australia, 4183
the Far East, 4156h
Puerto Rico, 4126
South Africa, 1928
the U.S.S.R., 3131

Sugar-cane (*continued*)—
growth—*see also below*, physiology *and* ratooning—
a description of, 1998j
growth substances affect, 928, 3137, 4135
rhythm, 922
sulpha drugs affect, 960r
of unharvested, 1958
weighing plants with aid of gamma rays, 4129
harvesting—*see also below*, maturity—
machinery and equipment, 1955, 1956
storage after, 1957, 1997t
timing of, 3145, 4141
topping, 1997t, 1998k
juice—*see also above*, composition, *and below*, maturity—
analytical procedures, 931, 932
field sampling, instrument for, 1998g
herbicide residues in, 1368o
quality, factors affecting, 907, 921, 923, 926, 930, 1958, 4131, 4132
leaf stomatal movements, 3127
machinery—*see also above*, harvesting—914, 941, 3176w, 3177m
maturity—*see also above*, harvesting *and* juice—estimation, 924, 3145
mutations, 1999h
nutrition—
calcium, 918, 3121, 3135, 3136
copper, 3176t
factory wastes for, 942, 3119
fertilizer placement, 4131
foliar application, 4132
leaf and leaf-sheath analysis a guide to, 918, 959f, 3135, 4125
manuring and major elements in general, 1999 l, 3129, 3131, 3132
nitrogen, 906, 918, 919, 1939, 1940, 1942, 1943, 3119, 3120, 3130, 3133, 3134, 4131, 4133, 4134
phosphorus, 918, 1939, 1940, 3119, 3130, 3135, 3136, 4131
potassium, 918, 1939, 1940, 3119, 3121, 3130, 4129, 4131
stalk and juice analysis a guide to, 1941
varietal differences in response, 919
weed flora affected by, 2482
pests—
army-worm (*Pseudaletia unipuncta*), 3141
arthropods (several species), 3140
beetle (*Lachnosterna consanguinea*), 3142
birds, 960a
borers—
Chilo tumidicostalis, 938
Chilotraea infuscatella, 1950, 1999c, 4139
a control service for, 3176r
Diatraea spp., 927, 1997k, 3177v, 4156g
Emmalocera depressella, 1950
Proceras and *Scirpophaga* spp., 1999c
Raphimatopus ablutella, 1950
sampling for, 1997b
unspecified, 4131
Sugar-cane—pests (*continued*)—
chestnut brown bug (*Scaptocoris castaneus*), 1951
control, biological, 1949, 1997k, 4156g
greyback cane beetle grub (*Dermolepida albohirtum*), 3143
jassid (*Tettigella spectra*), 1949
leafhoppers (*Dictyophora* and *Pyrilla* spp.), 940, 1949, 1952, 1953
mealybugs (various species), 939, 1949
mites, 1949, 1997c
nematodes, 933, 4157a
termites, 959d, 1954
white grubs (*Clemora* and *Leucopholis* spp.), 3144, 4125
woolly aphid, 3121
yield reductions due to, 938
physiology—
of germinating setts, 3126
nutrient absorption, seasonal variations in, 923
nutrient translocation, 4129
photoperiodic and other light responses, 922, 925, 1944, 3218
water relations, 920, 921, 1936-1938, 3127
planting—*see also below*, setts—
machines, 914
methods compared, 913, 1935, 3119
time of, 922
production and trade, 961e, 1999r, 4157o
propagation by marcotting, 908
ratooning, 906
research in—
Australia, 1930, 4183
the British West Indies, 1932, 4180
Hawaii, 1929
India, 996
Kenya, 995
Mauritius, 4125
Puerto Rico, 959f
South Africa, 1931
root formation on an internode, 3176q
root growth, factors affecting, 1936
setts—
different stalk sections as, 4128
germination, factors affecting, 939, 3125
germination, physiological studies on, 3126
packing for shipment, 908
treatments—
dipping equipment, 3138
fungicide and insecticide, 959x, 1934, 1948, 1951, 1998r, 3125
heat, 933-935, 1011, 1946, 3138, 3139
soil—
fertility, tests for, 915
management—
cultivation—
earthing-up, 916, 917
inter-row, 3120
stubble ploughing, 1997r
subsoiling, 3119
intercropping, 906, 3120
irrigation, 960b, 1998m, 3120, 4156u

Sugar-cane—soil—management (*continued*)—
mulching, 1997r, 3120
rotations, 906, 3120
weed control, 361, 366-370, 389b, 1353, 1354, 2450, 2482, 2483, 3601, 3621a, 4125
moisture distribution, 4129
types and requirements, 3121, 4130
spraying, concentrate, 1953
stalk, rind hardness, 3146
storage of harvested, 1957, 1997t
stubble shaving, 3177m
sucrose—
content—
effects of growth substances on, 929, 4135
factors affecting, 907, 1998k, 3128
molasses and sugar sprays improve, 930
sampling and determination, 4140
transport, 941
varieties—
in Australia, 907, 960 l, 1937, 1997f, 4156b, 4156d, 4157j
B.O.10, 1998f
in British Guiana, 911, 918, 924
collections, 3122
descriptions, 909, 3122
fertilizer response variations, 919
in Hawaii, 3122
in India, 906, 3177q
in Jamaica, 1997 l
in Mauritius, 4125
in New Caledonia and New Guinea, 3122
in Nigeria, 2058p
in North Africa, 3177a
in Pakistan, 912
in the Philippines, 1997a, 1997n, 3121, 3132, 4127
polyploid, 3123
in Puerto Rico, 1933
Q series, 1999p, 3176o
in South Africa, 909, 910
in Spain, 2030
in various Latin American countries, 1997s, 3123, 4156c
wax, 959t, 4157b
as windbreaks for papaw, 3176p
yield surveys, 905
Sugar-maple, growth and physiology, 1759, 1760
Sugar-maple, weed control, 2469
Sulpha drugs, growth responses to, 960r
Sulphates *vs.* chlorides in plant nutrition, 2690, 3346
Sulphur—
absorption, factors affecting, 3769
determination, 3285o
deficiency, calcium oxalate crystals affected by, 3264
dioxide, use in cold storage, 3450
dioxide, injury to plants, 2066
metabolism in plants, 15, 3197
nutrition of crops—*see also* Tobacco nutrition—
fruit, 3346
Sulphur—nutrition of crops (*continued*)—
ornamentals, 2864
various, 890, 4122
vegetables, 442, 2121, 2717e, 3769
radioactive, 15, 442, 1081t, 2121, 3312
soil salinity corrected by, 3629
Sun burn injuries to plants and methods of protection, 1999f
Sun light amounts, crop yields related to, 212
Sunflower—
growth substance responses, 3927
light responses, 23
root growth, 2131
tissue culture, 33
Survey methods in agriculture and horticulture, 905
Swede—*see also* Brassicas—
composition, 2635
nutrition, 473, 3717, 3718
pests, 1487, 2139, 2636
soil cultivation, 3717
soil types, pests in relation to, 2636
varieties, 2635
weed control, 3604
Sweet pea—
diseases, 663
flower drop, 664
flowers, cut, prolonging life of, 2859
gibberellin responses, 2851
nutrition, 2068, 2887
root growth, 2131
Swinglea glutinosa, 2959
Swiss chard, pests, 2440
Switzerland, crops, fruit, 1184, 1216q, 2239h
Switzerland, crops, tobacco, 589a
Symphytum spp., research on, 3795r
Symphytum spp., varieties, 3623
Synanthedon pictipes, 2305, 3527
Syntomaspis varians, 1293
Syria, crops, tobacco, 2780b

Tabernanthe iboga, 1672p
Taeniothrips nigricornis, 445
Tagetes spp.—*see also* Marigold—
herbicide injury, 3571
nematodes reduced by, 2449c, 3517
root growth, 2131
Tamarind (*Tamarindus indica*), 1611, 2839x
Tanganyika—
agric. Corp., A.R., 2048
Dep. Agric., A.R., 3217
Govt Chem., A.R., 1015s, 4192
Sisal Res. Stat., Mlingano, A.R., 616
Tannery sludge, mulching with, 2717i
Tannin(s)—*see also* Polyphenols—
biogenesis, 2840f
determination, 1082b, 1673j
from grape vines and seeds, 214, 3451
-iron reaction, prevention of, 3452
plants—
Acacia spp., 2836, 2840f
Ampelopsis vitifolia, 2839 l
Coriaria myrtifolia, 3903d
Epilobium hirsutum, 2837

Tannin(s)—plants (*continued*)—
rhododendrons, 3903y
Rhus spp., 645, 1665
Rumex hymenosepalus, 2835
Schinopsis spp., 2840f
a survey of, 1026
preparation, 645
Taphrina deformans, 2297, 2305, 2371, 2372, 3500, 3561a
Taraktogenos kurzii, 1611
Taraxacum kok-saghyz—*see* Kok-saghyz
Taraxacum officinale, 377, 3589
Tarsonemus pallidus, 299-302, 1266-1268, 2051, 2400, 3525, 3526, 3905, 3906, 3939
Taste evaluation of celery stalks, 2716r
Taxus spp.—
hedges, growth control with maleic hydrazide, 1012
nutrition, 1784
photoperiodic responses, 2927
weed control, 2469, 2470, 3591
Tea—
agrotype concept, 3149, 3150
altitude responses, 3176g
breeding and selection, 1962, 3151
climate—
cold resistance and damage, 943, 2976, 3156, 3163, 4146
drought effects and ways of minimizing them, 4156n
geographical range, 4143
hail damage, 1979
rainfall responses, 945
sun scorch, 1999f
clones—*see also below*, varieties—1997z
composition—
aldehydes, 953, 1025
calcium oxalate crystals, 3149, 3150
changes during growth, 3162
changes during manufacture, 1025, 4150
enzymes, 1986, 1987
fluorine, 950
methanol, 1985
mineral, 1982, 1983, 3150, 3160, 3165
organic acids, 3162
polyphenols, 951, 952, 960u, 960v, 1025, 1082b, 1983, 1984, 1988, 3163-3165, 3176h, 4144, 4150, 4157i
regional variations in, 3163
diseases—
algal, red rust (*Cephaleuros parasiticus*), 3177x
fungus—
Armillaria mellea, 4142, 4147
blister blight (*Exobasidium vexans*), 1997y
branch canker (*Poria hypobrunnea*), 1999f
branch die-back (*Nectria* spp.), 1999g
Japanese exobasidium blight (*E. reticulatum*), 4148
flower bud differentiation, 3161
growing—
in India, 3176s
in Turkey, 1997d
in the U.S.S.R., 943, 3151
growth—
dormancy, 3156
maleic hydrazide checks, 3165
shoot, factors affecting, 944-947
machinery, field, 3166
manufacture, 953, 960u, 960v, 1985-1988, 3177c, 3178d
nutrition—
manuring in general, 959j, 1970, 1978, 4156y
minor elements, various, 1972, 1974, 1976, 1977, 1998e, 3160, 3218
nitrogen, 1971-1975, 3148, 3157, 4142
phosphorus, 1975, 3158, 3159, 4142
potassium, 1975, 1976, 1998e, 3160
-oil plant (*Camellia semiserrata*), 1660
pests, 1981, 1997d, 3167-3169, 4156i
physiology—
catechins metabolism, 3164, 4149
environment affects, 3176g
photosynthesis, 1969
radiation responses, 1041
planting—
infilling, 1964, 1998a
methods, 4157r
spacing, 943, 1965-1967, 3148
plucking, 3166
production and trade, 3178f
propagation—*see also below*, seed—
by cuttings, 3148, 3152-3154, 4145, 4156k
by layers, 1964
nursery techniques, 1963, 1970, 1997x, 4156k
pruning, 1978, 1998b, 4142
quality, flavour, drying affects, 953
quality, plucking interval affects, 944
research—
in India, 3147
Inst. Ceylon, A.R., 1959
Inst. East Africa, A.R., 1960, 4142
Stat., Nyasaland, A.R., 3148
in various countries, 2029, 4143
seed storage, 960h
seed treatment, 1959
shade—
growth responses, 948
nutrition in relation to, 1973, 1974
physiological effects, 1968, 3176g
tree species and their management, 1963, 3148
soil—
conservation, 4157r
management, cover crops and green manures, 3148
management, irrigation, 948, 949
requirements and types, 949, 1972, 3159
waterlogging, 3155
spray injury, 1980
spray residues, 3169, 3170
taxonomy, agrotypes, 3149
varieties and hybrids, 3177c, 4144

Tea (*continued*)—
yields, forecasting, 947
yields, seasonal distribution, 1999v
Tectona grandis, 639
Telitoxicum spp., alkaloids, 1672i
Temnoschoita nigroplagiata, 1853
Temperature(s)—*see also under* Climate, Heat *and* Soil—
flower bud drop affected by, 3329
flower colour affected by, 2920
leaf composition affected by, 4039
low, chilling injury symptoms, 2075
measurement—
of air, 1222
in buds, 1222
inside leaves, 1598
nutrient absorption affected by, 2944m, 3769
pollen affected by, 1482, 3746
responses of cuttings, 653, 670, 2265, 2849, 3924
responses of plants—*see also above*, low, *and* Forcing, *and* Cabbage, Tobacco *and* Tomato *under* climate *or* physiology—
fruit and nuts, temperate, 114, 232, 1186, 1216a, 2173, 2254, 2256, 2265, 2266, 2277, 2301e, 2326, 3372
fruit and plantation crops, tropical and subtropical, 1875, 3073, 4015, 4039, 4100
light intensity affects, 2674, 2867, 2882
methods of estimating, 395, 3285g
ornamentals, 670-673, 695, 704, 754a, 975, 1705, 1708, 1785r, 2867, 2882, 2888, 2900, 2903, 2904, 2920, 3946, 3950, 3985, 3993, 3997g
various, 19, 2074, 2862
vegetables, 415, 424, 434, 1417, 1474, 1482, 1483, 1495, 2076, 2512, 2515, 2575, 2582, 2583, 2617, 2625, 2657, 2664, 2674, 3203, 3214, 3716, 3748, 3769
seed germination affected by—*see* Seed
sums—
for asparagus, 2545
for beans and peas, 2585, 2587
for hops, 3881
tables of, 3189
weed control affected by, 377
Tephrosia vogelii, 634, 1655
Termites and their control, 959d, 1954, 2753, 3086, 4156i
Tetranychus—see also Eotetranychus—
bimaculatus, 2443, 3518, 3521
kanzawai, 3168, 3169
marianae, 3788
schoenei, 3521
spp., unspecified, 535d
telarius, 450, 451, 513, 1001, 1304, 1451, 1743, 1818, 2395, 2440, 3639
urticae, 299, 1302, 1450, 2398, 3694
viennensis, 298
Tetraploid plants—*see also* Polyploid—693, 732, 1216k, 1691, 1962, 2944c, 3428
Tetrastichus pyrillae, 1949
Tetrazolium and its derivatives for testing seed viability, 1081a, 1081n, 1723, 2114, 3400v, 3796a, 4173
Tetrazolium and its derivatives for virus detection, 1945
Tettigella spectra, 1949
Thailand, crops, sugar cane, 4156h
Thallium sulphate, plant growth affected by, 2117
Theresimima ampelophaga, 1289
Thiamine—*see under* Vitamin B
Thielavia basicola, 3941
Thielaviopsis spp., unspecified, 749
Thiourea as an enzyme inhibitor, 1021
Thistle control—*see also individual species*—4184
Thorn-apple—*see Datura*
Thosea recta, 1959
Thrips—*see also individual species*—bacterial diseases transmitted by, 445
Thrips tabaci, 451, 1411, 1463, 1464, 2623, 3840
Thuja spp., light responses, 2928
Thuja spp., pests, 1762
Thymus vulgaris, 1607
Tiglic acid in plants, 3894
Tilia sp., physiology, 2072
Timiryazev agric. Acad., work at, 1169u, 1546e
Tischeria sp. on strawberries, 3562r
Tissue culture, 31-33, 649c, 710, 848, 1050, 1052, 1571, 1614, 2112, 2113, 2147g, 2747, 2748, 3205, 3244, 3255
Tobacco—*see also Nicotiana—*
Abstracts, a new periodical, 2719
breeding and selection, 537, 568, 589i, 1003, 1602c, 2721-2724, 2745, 2780c, 2780g, 2780r, 3800, 3856a
broomrape (*Orobanche* spp.) on, 387, 2476, 3598
bulking, 1602e
climate—*see also below*, physiology—
drought resistance, 1550
rainfall and its effects, 3799
temperature responses, 3804, 3809, 3810
composition—*see also below*, curing, fermentation *and* physiology—
alkaloids, 587, 1569, 2735-2737, 2744, 2745, 2747-2751, 2778, 2780g, 2780m, 3816, 3821
carbohydrates, 553-556, 588, 589o, 1561, 2775, 3852
dry matter changes during growth, 3814
essential oils, 2779, 3835, 3856j
factors affecting, 551, 583, 1551, 1561, 1562, 1566, 1568-1570, 1578, 1596, 2780j, 3809, 3811, 3812, 3819, 3827, 3829, 3841
glycosides, 2780h, 3826
mineral, 557, 583, 1562, 1566, 1570, 2730, 3806
moisture content, 585
nitrogen compounds, 553-556, 1566, 1568, 1569, 1601, 2735, 2775, 3234, 3850
organic acids, 553, 567, 589f, 589n, 1561, 1578, 1602 l, 2752, 2754, 3831-3834, 3837
phenolic compounds, 1579, 1602n, 2752, 2775-2777, 3827-3829

Tobacco—composition (*continued*)—
pigments, 585, 1602t, 2780f, 3820, 3821, 3830
quality grades in relation to, 2774
solanesol, 1602m
curing—*see also below*, fermentation—
air, 587, 1602k, 2771
barns, chambers and equipment, 536, 2769, 3850
bruising before or during, 1596
bulk method, 2770
chemical changes during, 553, 585, 586, 1596, 2775, 2776, 2778, 3820, 3821, 3827, 3828, 3850-3853
chemical oxidation simulates, 1599
flue, 2769, 2780a, 3854
humidity forecasting to assist, 1595
measurement of leaf temperatures during, 1598
midrib removal prior to or during, 1597
pest attacks during, 1602a
pore volume affected by, 3855
stringing for, 536, 2768
temperature effects, 3850
of whole plants, 2780q, 3856m
diseases—
bacterial, granville wilt (*Pseudomonas solanacearum*), 1011, 1583
bacterial, wildfire (*Pseudomonas tabacum*), 589h, 1584, 1585
cause uncertain, frenching, 984
cause uncertain, green spot, 2754
fungus—
anthracnose (*Colletotrichum* spp.), 577, 1602v
barn rot (*Rhizopus arrhizus*), 3854
black shank or canker (*Phytophthora* spp.), 578
blue mould (*Peronospora tabacina*), 537, 540, 1586, 1587, 2757, 3843
brown spot (*Alternaria longipes*), 3842
frog-eye, barn spot or leaf spot (*Cercospora nicotianae*), 545, 2760-2762
nutrition affects, 1561, 2762
powdery mildew (*Erysiphe cichoracearum*), 2763, 2764, 3856g
sore shin (*Corticium solani*), 589s
southern stem rot (*Sclerotium rolfsii*), 589s
wilt (*Fusarium* spp.), 2758, 2759
wilt (*Verticillium* spp.), 2041
general, in various countries, 539, 1602u, 2753, 2780s
non-parasitic, apical chlorosis, 2780p
non-parasitic, red leaf, 568, 569
varietal resistance, 1602c, 2721-2723, 2760, 2780p
virus—
leaf curl, 1580
mahorka tip chlorosis, 3840, 3841
mosaic, 243, 570-575, 589b, 589e, 1572, 1582, 1602i, 2755, 2763, 2780v, 2780w, 3836-3839, 3856c, 3856d, 3856k, 3856 l, 3856n
Tobacco—diseases—virus (*continued*)—
necrosis, 589b
potato X, 3836
rattle, 589j
ringspot, 576, 589b, 2756, 3840
stunt, 541-543, 1581
susceptibility, factors affecting, 589e, 2755, 2780v, 2780w
economics, 536, 1593, 2780t, 3847
fermentation—*see also above*, curing—
chemical changes during, 589n, 2778
control of environment during, 2771
methods of accelerating, 2772, 2773
physical changes during, 1600
field experiments, design, 68p
flower abscission, 1573, 3817
flower bud formation and development, 3810
fruit set, parthenocarpic, 3817
grading, 1602d, 1602e
growing—
of aromatic or Turkish types, 536
in Australia, 1548
in Canada, 2044
in the Far East, 1602b, 2780s
in French overseas territories, 538, 589c
under glass, 3829
in the Middle East, 589a, 2780b
in Rhodesia/Nyasaland, 3856h
in South America, 2780k
in Switzerland, 589a
in the U.S.A., 536, 1594
growth—
age of seed affects, 2728
calcium cyanamide stunts, 1554
fungicides stimulate, 578
gamma irradiation affects, 562
phases, 3814
substances—*see below*, physiology
variability, a statistical study of, 3
harvesting—
costs and work studies, 1593, 3847
mechanical, 1593, 3847
priming, 583, 3848, 3849
stalk cutting method, 3848, 3849, 3856m
herbicide injuries, 1602u
hybridization, vegetative, 2723
leaf(ves)—*see also above*, composition, *and below*, quality—
ageing, 2083
area estimation, 3813
colour, 3820
maturity, determination of, 584
morphology or anatomy, factors affecting, 572, 1051, 1550, 3806, 3855
size, factors affecting, 3815
temperature, measurement of, 1598
marketing, 1602d, 1602e, 1602f
mutations, 1602q, 1602r, 2726, 2780r, 3820, 3856p
nutrition—
boron, 2731, 2737
calcium, 1570, 2526, 2731, 2734
chlorine, 3806, 4195
copper, 4192

Tobacco—nutrition (*continued*)—
deficiency symptoms, general, 2731
fertilizer placement, 3802
foliar, 2735, 2736
by injection of amino-acids, 2744
iron, 722, 2125, 2755, 2780v
lead toxicity, 984
magnesium, 558, 2731, 2734
manganese, 557, 2731, 2734, 2780v, 2780w
manuring and major elements in general, 548, 549, 551, 553, 557, 559, 589r, 1516, 2029, 2733, 3802, 3803
nitrogen, 537, 551, 555, 556, 589e, 1554, 1557-1561, 2048, 2731, 2734, 2735, 2762, 2780j, 3802-3804
phosphorus, 554-556, 589e, 1554, 1561, 1570, 2731, 2736, 2762, 3805
potassium, 537, 555, 559, 560, 1561, 1562, 1566, 1570, 2048, 2731, 2734, 2762, 3803
sodium, 560, 561
soil pH in relation to, 3801
sulphur, 561, 2731, 3806, 3807, 4195
origin and evolution, 2727
pests—
aphids (*Myzus persicae*), 2766
attacking leaves during curing, 1602a
budworms (*Heliothis* spp.), 579, 580
caterpillar (*Prodenia litura*), 2765
cutworms (various spp.), 581, 1592
flea beetle (*Epitrix hirtipennis*), 582, 1590
general, in various countries, 539, 589k, 589m, 1602j, 2753, 2780s
grasshoppers (various spp.), 579
hornworms (*Protoparce* spp.), 526, 3845
loopers (*Plusia* spp.), 579
nematodes, 525, 539, 589m, 1009, 1588, 2767, 2780c, 3844, 3856b, 3856o
Phaneroptera furcifera, 2765
shade affects, 589d
soil insects, various, 589q, 1589, 1591
stem borers and leaf miners (*Gnorimoschema* and *Phthorimoea* spp.), 579, 589p
thrips, 3840
whitefly (*Bemisia tabaci*), 1580
physiology—*see also above*, climate, composition *and* growth—
antibiotics translocation, 2531
carbohydrate metabolism, 1577
carbon fixation, 571
of drought resistance, 1550
enzyme activity and distribution, 553, 584, 589g, 1602h, 2083, 2752, 2780o, 3817, 3841, 3851
flavonoid biosynthesis, 3271
growth substance responses—*see also below*, suckers—1052, 1602h, 1570, 2108, 3816, 3817, 3853
light intensity responses, 3820, 3821
nicotine degradation, 1576, 1602s
nicotine and nornicotine biosynthesis, 566, 1574, 1575, 2737, 2746-2748, 2750, 3816, 3822-3825
nutrient assimilation and translocation, 2526
Tobacco—physiology (*continued*)—
organic acids metabolism, 564, 565, 567, 2752, 3831
photoperiodic responses, 2077, 2108, 3810, 3822
photosynthesis, 573, 3836
polyhydroxyphenol biosynthesis, 3271
protein metabolism, 2083
respiration, 563, 2780u, 3831, 3836, 3851, 3852
a review on, 4172
tissue culture, 33, 1052, 1571, 2747
ultraviolet light responses, 563, 3829
pigments—*see above*, composition
planting—
climatic conditions during, 3809
dates, 545, 554, 1563
spacing, 549, 1567
pollination, 2725
priming—*see above under* harvesting
production and trade, 1602f, 1602o, 1602p, 3856h
quality, burning tests, 3806
quality, factors affecting, 537, 548, 549, 554-556, 558, 1552, 1565, 1568, 1596, 1601, 2730, 2774, 3805, 3811, 3812, 3846, 3848-3850
research in—
Belgium, 993
Canada, 3203
Cyprus, 985
Mauritius, 2037, 3213
New Zealand, 2720, 3204
the U.S.A., 4195
the U.S.S.R., 2722
root growth, 559, 1516
root systems, 1556, 3811
as a rootstock for zinnia, 3934
rootstocks, *Nicotiana* spp., 2077, 2749
rootstocks, tomato, 2748
seed—
-bed management, 74, 388, 539-543, 577, 589r, 1347, 1553, 1554, 2474, 2475
dormancy, 2727
germination, 3808
production, 3800, 3856f
storage, 2726-2728, 2780n
treatments, 2729, 2780n, 3808
shading, effects of, 577, 589d, 1566, 3820
shading, mould control on cheesecloth used for, 2780i
soil—
conservation, 1555, 1564
management—*see also above*, seed-bed—
cultivation, 546, 1556, 1557
fumigation, 388, 578, 2767, 3844
green manuring, 1556
irrigation, 547-549, 1003, 1065, 1564-1566, 2738, 3811, 3812
mulching, 577, 1557
rotations, 548, 2732, 3856o
soil conditioners, 1553
weeds and their control, 388, 539, 540, 1347-1349, 1554, 2474, 2475

Tobacco—soil (*continued*)—
requirements and types, 551, 2780 l, 3801
sprays, off-flavours caused by, 3846
sprays, residues, 335, 2146a
stems—
compost from, 1602g
morphology or anatomy, 562, 3806
sulphuric acid treatment as substitute for ringing, 3819
suckers, chemical suppression, 550, 1568, 1569, 2146a, 2739-2743, 3818
topping, 1567, 2737, 2742, 2751, 3828
varieties—*see also above*, breeding—
aromatic, 1551, 1594
cherry red strains, 3821
disease resistant—*see above*, diseases
in France, 1549
in Germany, 3856e
in Hungary, 3799
Hicks, 3800
in India, 2780e
in Indonesia, 2029
in Nigeria, 2058p
in the Philippines, 3797, 3798
in the U.S.A., 3856i
in the U.S.S.R., 2722
variability, 3800
Tomato—
anatomy, 1063
breeding and selection—
for dry matter content, 483
for earliness, 482, 484
general, 534b, 1501, 3745
for resistance to—
cracking, 2718m
diseases, 1502, 2705
frost, 2667
broomrape (*Orobanche* spp.) on, 386
climate—
frost or cold resistance, 2667
frost protection, 3763
light and temperature responses—*see below*, physiology
composition—
fruit—
carbohydrates, 489, 1531, 3750
disease resistance in relation to, 2696
dry matter, 489, 1505
factors affecting, 404, 498, 1505, 2680, 2689, 3752
general, 480, 1532, 3751
mineral, 404, 501, 2693
nitrogen compounds, 489, 1532
organic acids, 489, 1505, 1531, 2695, 3750
pectic substances, 2716p
pigments, 2681
vitamins, 1020, 1382, 1391, 1505
leaf, 495, 501, 506, 597, 1520, 1531, 2525, 2675, 2681, 3770, 3771
plant, 212, 502, 510, 1521, 1522, 2685, 2686, 2690, 2692, 3796v
Tomato (*continued*)—
diseases—
bacterial—
canker or wilt (*Corynebacterium michiganense*), 516, 2058n
spot (*Xanthomonas vesicatoria*), 512
wilt (*Pseudomonas solanacearum*), 2716x
control, general, 523, 3795c
fungus—
anthracnose (*Colletotrichum phomoides*), 517, 2700, 3203
blight, early, target spot, or collar ro (*Alternaria solani*), 402, 406, 518, 522, 1523, 2700-2702, 3214, 3780, 3781, 3783
blight, late (*Phytophthora infestans*), 402, 406, 512, 518, 1523, 2702, 3781, 3782-3785
blight, southern (*Pellicularia rolfsii*), 2703
fruit rot (*Phoma destructiva*), 3785
grey mould (*Botrytis cinerea*), 512, 2662, 3785
leaf mould (*Cladosporium fulvum*), 511, 1545s, 2699, 3215
leaf spot (*Septoria lycopersici*), 518, 2701, 3782-3784
leaf spot, grey (*Stemphylium solani*), 512
soil-borne, 2703, 2704
stem-rot (*Didymella lycopersici*), 513, 994, 1524, 2034, 3786
watery rot (*Oospora lactis*), 3787
wilt—
Fusarium spp., 511, 519-521, 535j, 2696, 2697, 2702, 2705
toxins, 289, 2697
Verticillium albo-atrum, 1545h, 1546f
non-parasitic—
blossom-end rot, 499, 1378, 1520, 1521, 2683, 2695
chlorosis, 510
cloud or blotchy ripening, 489, 511, 2692, 2694, 3752, 3779, 3795g
excess soluble salt causes, 2691
internal browning, 1521, 3796v
"waxy" fruit, 3752
wilt, 3778
resistance—*see also above*, breeding, *and below*, varieties—factors affecting, 487, 520, 521, 2696
virus—
leaf shrivelling, 515
potato Y, 1546g, 1546h
spotted wilt, 505
streak, 486
tobacco mosaic, 511, 1522
transmission by seed, 514, 1545g
economics, 485, 3741
field experiments, design, 2665
flower—
drop, 486
production, factors affecting, 492, 1500
trusses grafted onto young plants, 3205

Tomato (*continued*)—
fruit—*see also above*, composition, *and below*, grading, harvesting, packing *and* storage—
cracking, 535r, 2693, 2718m
quality, factors affecting, 501, 1380, 1515, 2679, 2683, 3632, 3757, 3777, 3780, 3781
ripening, 527, 1023, 1517, 1529-1534, 2684, 2716p
set and parthenocarpy induced, growth substances affect, 1510, 2677, 2678, 2718e, 3636, 3757
size, factors affecting, 1510, 2671
toxic factors in, 2680
yield, factors affecting, 1515, 2675, 3221, 3756, 3771
grading, 528, 3740
growing—
in Canada, 2718 l
in the Canary Islands, 3796x
in European countries, 1381, 1503, 3742
in frames, 2516
under glass, 485, 486, 535c, 3741, 3795z
in North Africa, 1546n
under plastic, 399, 3796p
in the U.S.A., 534m
in the West Indies, 2716i
growth—*see also below*, root—
antibiotics stimulate, 1519
callus formation, 1546i
cycle, 490, 1506
gigas, 2666
factors affecting, 1370, 1506, 2708
shoot in relation to root, 3754
substances, responses—*see also above*, fruit set, *and below*, herbicide *and* physiology—492, 504, 520, 597, 994, 1051, 1370, 2090, 2099, 2520, 2522, 2677-2680, 2688, 3628, 3757-3759
harvesting, 527, 1390
herbicide responses, 378, 382, 389f, 1367, 2452, 3405, 3618, 3619
hybrid(s)—*see also above*, breeding—
interspecific or intergeneric, 3745
vegetative, 534b, 3743, 3796u
vigour, 1545y, 1546o
leaf, potassium leaching from, 507
leaf, pruning, 1546u
mercury paint vapours injure, 2855
nutrition—
bacterial fertilizers, 1386
boron, 499, 501, 502, 1378, 1521, 2126, 2672, 2693, 3633, 3775, 3796e, 3796v
calcium, 498, 499, 503, 510, 1378, 1520, 1521, 2093, 2526, 2689, 2690, 3312, 3769
carbon dioxide, 486, 3769
chloride, 1513, 2067, 2690
cobalt, 499, 4121
copper, 499, 2126
foliar, 1517, 2093, 2684, 2686, 3269, 3312, 3769, 3776
iron, 504, 534q
magnesium, 486, 1515, 2689, 3632, 3776
manganese, 499, 510, 2126, 2672, 2691
Tomato—nutrition (*continued*)—
manuring in general, 486, 506, 1375, 1379, 2035, 3208, 3768
minor elements, various, 48, 1518, 3312
molybdenum, 499
nitrogen, 498, 505, 506, 1514-1516, 1521, 2682-2686, 2688, 3632, 3769, 3772, 3773, 3796v
phosphorus, 495, 500, 1063, 1377, 1513, 1514, 1516, 2068, 2527, 2684-2688, 2690, 3214, 3268, 3312, 3632, 3769, 3770, 3773, 3795d
potassium, 495, 507, 1515, 2689, 3632, 3769, 3770, 3774
salt tolerance, 1512
sodium, 404, 1518
starter solutions, 2673, 2685
sucrose, 2684
sulphur, 1513, 2690, 3197, 3769
zinc, 499, 508, 2126, 2672, 2692, 3247
packing, 1545c, 3780
pests—
aphids, 3789
Gnorimoschema absoluta, 3789
green vegetable bug (*Nezara viridula*), 3795q
greenhouse white fly (*Trialeurodes vaporariorum*), 1527
hornworms (*Protoparce* spp.), 526
ladybirds (*Epilachna* spp.), 3641
mites, 1526, 3788
nematodes, 525, 2034, 2704-2707, 3638
vinegar fly (*Drosophila* spp.), 1528, 3787
physiology—*see also above*, climate *and* growth—
anion uptake, 2690
enzyme activity, 1533, 2126
ethylene production, 3753
indole metabolism, 3247
phosphorylation in fruit, 1023
photoperiodic and other light responses, 491, 992, 1371, 2028, 2512, 2674, 2685, 2692, 3241, 3779
photosynthesis, 2686, 3748
radiation responses, 1041
respiration, 507, 519, 2666, 3748
temperature responses, 2674, 3746, 3748, 3769, 4179
tissue culture, 3205
translocation, 212, 504, 1028, 1521, 2067
vitamin responses, 2129
water relations, 212, 493, 494, 507, 1081u, 1380, 1507, 1521, 1525, 2693, 2694, 2698, 3760, 3778, 3796v
planting—
pricking out, 2514
spacing, 496, 3755
transplanting, starter solutions for, 2673, 2685
pollination—
artificial methods, 2718e
natural cross-, 1509, 1546c
pollen characters, 3746
with pollen mixtures, 2670

Tomato—pollination (*continued*)—
pollen storage, 2671
products and by-products, 2716t
pruning, 496, 497, 3756, 3757
research in various countries, 1000, 1012, 3204, 3215, 4185
root(s)—
growth, 24, 490, 2131, 3754
nutrient absorption and excretion, 1031
secretion of fusaric acid, 2697
water absorption, 1081u
as a rootstock for eggplant, 487
rootstocks—
Cucurbita spp., 2668, 2669
Cyphomandra spp., 535p, 3744
Datura tatula, 488
Lycopersicum spp. and varieties, 484, 497
Solanum spp., 488, 2669
Verbena officinalis, 3743
seed—
cleaning, 3749
germination, 2117, 3626
number, pollen and ovule parents affect, 1509
oil, 3751
polyembryony, 2717h
sowing methods, 2673
storage, 3624
treatments, 514, 1382, 2126, 2517, 2525, 2672, 3747, 3748
seedlings—*see also above*, planting—
artificial light for—*see above under* physiology, photoperiodic
pots or soil blocks for, 1508, 2514, 2673
production, 2512, 2514, 3761, 4174
soil—
aeration, 3765
management—
amendments and conditioners, 212, 2682, 3766
fumigation or sterilization, 386, 510, 2682, 2691, 2704, 2708, 3638, 3767, 3768
irrigation, 493, 509, 517, 1380, 1521, 2675, 2693, 3761, 3762
mulching, 53, 2530, 2683, 3214, 3676, 3764
weed control—*see also above*, herbicide—342, 378, 382, 2489-2492, 2505, 2703, 2704, 3568, 3619, 3620, 3621b
pH, 495
salinity effects, 3630
temperature, 2674
soilless culture, 1373, 1374, 3268
spray(s)—
and other chemical injury, 1387, 2117, 2662, 2699, 2702, 2708
fungicides, general aspects, 523, 1525
machinery, 522
and vapour residues, 524, 2699, 3790
staking, 497, 2676
storage—*see also above*, fruit ripening—physiological changes during, 1391
storage, temperatures, 1010
Tomato (*continued*)—
varieties—*see also above*, hybrids—
in Canada, 3203
in China, 1501
in Cyprus, 985
disease resistant, 534a, 3795o
in European countries, 999, 1498, 1504, 1545o, 2033, 2038, 2676, 2718f, 3742
Ferguson, 2717f
in Jordan, 2035
nematode resistant, 534i
in North Africa, 392, 1546n
Potentate, 496
for processing, 480, 481, 1499, 1503
trials, design of, 2665
in the U.S.A., 481, 3214, 3686
Vinequeen, 3215
Wisconsin Chief, 4195
Yearbook, American, 3740
Tools—*see also* Apparatus, Ladders *and* Machines—
cultivating, a review, 3180
grafting, 37
pruning, 68o
Toxins—
insect-produced, 939
pathogen-produced, 289, 1602v, 2697, 3678
plant reactions to, 2698
soil sickness in relation to, 3461
Toxoptera aurantii, 1877
Toxoptera citricidus, 2985
Trachelospermum jasminoides, 3974
Trachycoccus hyperici, 1757
Tractors, 72, 147, 780, 2301o
Trade—*see also* Agricultural statistics—
crops—*see also* Cacao *and* Tobacco *under* production—
fruits and nuts, 180g, 823e, 1216j, 1216n, 2050, 3176k, 3176 l, 3206
ornamentals, 3936
plantation, 590, 961d, 961e, 1998n, 1999q, 1999r, 3178e, 3178f, 4157m, 4157n, 4157o
various, 1673m, 3903e
fats and oils, 637, 1672w, 1997u, 2839o
plant protective chemicals, 2448t
Training—*see under* Pruning *and individual plants*
Transpiration—*see also separate plants under* physiology, water relations—
anthocyanins in relation to, 2081
evapo-, 547, 920, 3127, 3238, 4050
factors affecting, 25, 26, 507, 3236, 3466, 3760
measurement of, 3286b, 3760
sprays to reduce, 1080, 1525, 3760, 3916
in variegated plants, 661
Transport—*see also* Marketing *and* Packing—of fruit and vegetables, 163, 176, 177, 2146v, 2241, 2581, 3285v
Tranzschelia pruni-spinosae, 3504
Traps for insects—*see* Insect
Trees and shrubs—*see also* Fruit trees *and individual species*—
a book on, 971

Trees and shrubs (*continued*)—
climate, air pollution, 731, 753s
climate, winter hardiness and injury, 1753, 3235
defoliation, chemical—*see* Defoliation
destruction—
by girdling, 389e
by herbicides, etc., 340, 389e, 897, 985, 1328, 1330, 1336, 1368n, 2020, 2026, 2450, 2460, 2511h, 3117, 3437, 3579, 3621k
mechanical, 2511 l
dwarfed Japanese, 3996a
flower forcing—*see* Forcing ornamentals
growing in containers, 2844
growth—
electrostatic fields stimulate, 2118
rhythms, 90
-substances in, 1755
-substances responses, 2853, 3974
for highways, 2944j, 3997o
pests, 753y, 1756, 2929
physiology, photoperiodic responses, 3973
physiology, water relations, 2082
propagation, 36, 655, 724, 1786f, 3997o
pruning, 753p, 754e, 3996s
in various countries, 753i, 753j, 1753, 1786e, 2841, 2944g, 2945b, 2945o, 3996q
weeping, composition, leaf, 730
wound treatment, 2143
Tree-tomato growing in New Zealand, 1840j
Tree-tomato as a rootstock for tomato, 535p, 3744
Trialeurodes vaporariorum, 451, 1527
Trichoplusia ni, 1494, 2559, 2718d, 3656, 3657
Trichosanthes cucumeriana, 2828
Trigonella foenum-graecum, 3647
Trinidad and Tobago, crops, fruit, 824
Trinidad and Tobago, Dep. Agric., A.R., 2049
Tropics(al)—
crops—
fruit in Trinidad, 824
fruit in the U.S.A., 3177j
in general, nutritional value of, 1998p
nutrition, minor elements, 46
roy. Inst. for the, Amsterdam, A.R., 2058q, 3226 l
weed control in the, 360
Tropinota hirta, 1277
Tryptophan, absence from plants, 566
Tryptophan content, auxin production affected by, 2274
Tulip—*see also* Bulbs—
bulb—
disinfection, 699, 1735, 2905
production, 2904, 3950
storage, 1715, 1733, 1734
diseases, general, 2945c
flowers, cut, prolonging life of, 664, 2860, 3917
flowers, development, heat treatment of bulb prevents, 2904, 3950
forcing, 1716, 1733, 3949
growing under plastic, 3949
Tulip (*continued*)—
growing in various countries, 753e
pests, nematodes, 699, 2905
planting time, 698
pollen composition, 1081g
propagation by offsets, 1732
seed anatomy, 1786h
soil management, mulching, 53
soil management, weed control, 1342, 2472, 2905, 3596
Year Book, R.H.S., 1730
Tung (*Aleurites fordii and A. montana*)—
clones in Nyasaland, 821
composition, fruit and seed, 1841d, 3024
diseases, 820
growing in various countries, 819, 2030, 3027k
machinery for, 822q
nutrition, 820
oil analysis, 821
seed germination, 3024
soil management, general, 2188
Tunisia, crops, tomatoes, 1546n
Tunisia, Serv. bot. agron., A.R., 4193
Turkey, crops, 197, 589a, 1997d
Turkmen botanic garden, 1081c
Turmeric (*Curcuma longa*), 389b, 3903b
Turnip—
composition, leaf, 3214, 3721
diseases, fungus, 2639
flower bud formation, 3719
flowering, gibberellin affects, 2103
growth substance responses, 2103, 2521, 2717j
herbicide responses, 378, 2491
nutrition, 3203, 3265, 3720, 3721, 3722
pests—
aphids, 1304
bug (*Nysius raphanus*), 3734
root flies (*Erioischia* spp.), 1487, 3203, 3723
weevils, 2640, 2717m
physiology—
anthocyanin formation, 2147e
enzyme activity, 3265, 3722
respiration, 3722
seed sowing, 2046, 2637
seed storage, 3624
soil management, irrigation, 2638
soil management, weed control, 378, 2491, 3564, 3568, 3604
varieties, 2718j, 3623, 3719
Tylenchorhynchus claytoni, 3844
Tylenchulus semipenetrans, 1009, 4021-4023
Typha spp., control, 1328, 2455
Typhlodromus spp., predacious mites, 2394, 2395, 3561 l
Tyrophagus dimidiatus, 2717d

Uganda Dep. Agric., A.R., 1011, 3218
Ultrasonic irradiation of seeds and plants, 396, 1057, 2517
Ultraviolet light—*see* Light
Umbonia spinosa, 3178h

Uncinula necator—*see* Vine diseases, fungus, powdery mildew
United Kingdom—*see* Great Britain *and* Ireland, Northern
United Planters' Ass. S. India, sci. Dep., Tea Sect., A.R., 3147
United States—*see also individual States for reports*—
agricultural statistics, 1081r
crops—
fruit—
deciduous tree, 78, 180i, 1169a, 1170k
evergreen, 822b, 884, 2059, 3177j
small—*see also* Blueberry, Strawberry *and* Vine *under* growing—1169a, 1170k, 1545f, 2301d, 2301n
nuts, 2300, 3027p
ornamentals, 753n, 753o, 1786o, 3936
various, 1545f, 1669, 3027k, 3904e
vegetables, 534g, 534m, 535e, 1545d, 1545f
Dep. Agric.—
agric. Exp. Stats, A.R., 1015u, 4200z
Directory Organ. Field Activ., 2015
Secretary Agric., A.R., 1015t, 4200y
horticultural research, 2052
horticulture in, 3185
ornamental plants and trees in, 1753
workers in subjects pertaining to agriculture, 4201a
Yearbook of Agriculture, 3219
Uranium—
for disease control, 1245
fission products, plant responses to, 1042, 3268
radioactive, 1041
Urea—
biuret an impurity in, 4088
foliage sprays, 136, 142, 170, 876, 1127, 1129, 2122, 2684, 2686, 2735, 2950, 3269, 3344, 4010
-formaldehyde as a fertilizer, 2871, 3772
plant diseases affected by, 3344
-succinic acid interaction, 2688
toxicity, factors reducing, 3683
Urginea maritima, 1673e, 2819
Urocystis cepulae, 3637
Uromyces limonium, 1712
Uromyces phaseoli, 402, 406, 448, 535b, 1005, 3688
Urtica urens, 3616
U.S.S.R.—
crops—
deciduous tree fruits, 1169n, 3291, 3292, 3294
essential oils, 2798
evergreen fruit and plantation, 2962, 3131, 3151, 4143
fibres, 1637
mushrooms, 2607
nuts, 1216o, 2301m
small fruits—*see also* Vine growing—3294, 3406, 3419, 3420
horticultural research, 1169u, 1546e
horticulture, 1
U.S.S.R. (*continued*)—
plant breeding, 2239 l
wild fruits in, 2238x, 2301m
Ustilago scitaminea, 1948
Utricularia alpina, 754j

Vaccinium—*see also* Cranberry *and* Blueberry —*uliginosum*, 2251
Vallaris spp., glycoside contents, 2839i
Vallisneria spp., control, 3574
Vanda spp.—*see also* Orchids—diseases, 717
Vanda spp., physiology, 1741
Vanilla—
breeding, 1608
diseases, 1610
growing in various countries, 649r, 1008, 1672c
preparation, 590
propagation, 1609
Variegation—*see also separate plants*—physiological aspects, 661
Variety—
collections, deciduous fruits, 84, 1169p
collections, tobacco and other *Nicotiana* spp., 1547
descriptions, methods, 3295
Vasates—
fockeui, 1264, 1265
lycopersici, 1526
schlechtendali, 2394, 2395
Vegetables—*see also separate crops*—
composition—
nutritional value, 2717r
radioactive strontium, 3795x
vitamins, 1376
diseases, 3796m
economics, 393
freezing-points, 2946
growing—
a book on, 3796i
in deserts, 2059
in "fly ash", 2529
under glass, 2718 l, 3285h
machines for, 1073
in soilless culture, 394
in the tropics, 534y
in various countries—*see under individual countries*
growth substance responses, 2097
marketing in various countries, 2012, 3400p
nutrition, fertilizer placement, 2716 l
nutrition, manuring, 534h, 1379
packing and grading, 66, 67, 68n, 2145, 2146b
pests, insects, 409, 3796m
pests, nematodes, 2533
preservation and processing, 3795w
research in various countries, 993, 994, 1000, 1001, 1003, 1007, 1009, 1546e, 3622, 4175, 4190, 4193
ripening, methods of hastening, 2222
seed—*see also under* Seed—storage, 1383, 3214, 3624
seed testing, 534z

Vegetables (*continued*)—
soil—
management—
fumigation, 2533
mulching—*see* Mulching
rotations, 3627, 3796o
weed control, 340, 379, 1318-1320, 1360, 2450, 3565
requirements, 2716g
spray residues, 335, 2146a
transport, 3285v
varieties in Holland, 2716d
variety trials, 534z, 535a, 2058 l
Velamen cells in roots, 2912
Venezuela, crops, coffee, 3071
Venezuela, Shell Serv. for the Fmr, A.R., 1009
Venturia inaequalis—*see* Apple diseases, fungus, scab
Venturia pirina—*see* Pear diseases, fungus, scab
Veratrum spp., alkaloids from, 2839w
Verbena—
officinalis as tomato rootstock, 3743
pollen germination, 1049
weed control, 356
Vermicularia capsici, 3794
Vermiculite, horticultural uses, 2490, 2533, 3179
Vernonia monocis, 1672b
Veronica spicata, 668
Verticillium—
albo-atrum, 610, 611, 618, 1545h, 1546f, 1634, 1646, 2839r, 3508, 3876, 3922
cinerescens, 3997b
dahliae, 2856, 3908
spp., unspecified, 697, 2041, 2710
Vetiver essential oil, 1672k, 2840d
Viburnum spp.—
photoperiodic responses, 2928, 3995
propagation, 1677, 3970, 3971
seed germination, 752
Vicia—
cracca, 2786
faba—*see* Beans (*Vicia*)
graminea, 2786
Vinca spp., botany, composition and pharmacology, 1627, 3903r
Vinca spp., weed control, 2470
Vine—*see also Vitis, and for subjects relating to grapes see below under* fruit—
breeding and selection, 198, 1191, 1216g, 2261, 2270, 3458s, 3458u
climate—
air pollution, 1230
drought injury, 198
hail damage, 236, 1206, 1229, 2328
light responses, 202, 212, 1216a, 2266, 2267
rainfall, 284, 3443
spring frost injury or protection, 236, 2320, 2321, 2449h
temperature responses, 232, 1186, 1216a, 2265, 2266, 2277, 2301e
wind damage, 231
winter injury, hardiness and protection, 234, 1192, 1223, 1224, 1316w, 2265, 2301e, 2324, 3552
Vine (*continued*)—
composition—
fruit and must, 199, 213, 214, 1183, 1204, 1209, 1216w, 2070, 2285-2287, 2290-2292, 2301i, 2302c, 2302d, 3403, 3442, 3445, 3458a, 3549
leaf and petiole, 12, 202, 1199, 2283, 2284, 2302c, 2308, 2311, 2409, 3403, 3442, 3458e
shoot, 1224, 2274, 3431
destruction of unwanted, 3437
diseases—
cause uncertain, spotted necrosis, 2324
fungus—
anthracnose or black spot (*Elsinoë ampelina*), 2381, 2382, 3511, 3512
dead-arm (*Phomopsis viticola*), 282
downy mildew (*Plasmopara viticola*), 279-281, 1255-1257, 1317f, 2381, 2383-2386, 3515, 3516, 3549, 3552
Eutypa armeniacae, 271
grey mould (*Botrytis cinerea*), 284, 1010, 3514
powdery mildew or oidium (*Uncinula necator*), 279, 1256, 2387, 3516
storage rots, various, 283, 284, 3513
non-parasitic—
anthracnose, 232
chlorosis, 205
shoot desiccation, 3475
varietal resistance, 2382, 3458s, 3478
virus—
general, 3561j
infectious degeneration, court-noué or fan leaf, 251, 252, 1243, 1244, 2340, 3478, 3562a
mosaic, 251
pierce's disease, 3458s
white emperor or leafroll, 2339, 3479
economics, 1184
field experiments, design, 219d
flower—
biology and morphology, 1200, 3431
bud, fertility estimated from, 3432
bud initiation and development, 201, 1187, 1188
or fruit thinning, 2097, 2099
inflorescence length, growth substances increase, 3636
flowering, growth substances advance, 2290
fruit (grapes)—
bunch—
covers, 1206
size, factors affecting, 1188
size, growth substances increase, 1204, 2290, 2291
composition—*see above*, composition
development, 1187
grading of raisins, 3449
growth substances in, 1209
harvesting, mechanical aids, 219u, 2296
processing, drying, 197, 215, 2237
production and trade, 1216j, 1216n

Vine—fruit (grapes) (*continued*)—
quality, factors affecting, 209, 213, 1206, 1256, 3445
residues, utilization, 219s, 220a, 3438
ripening—
factors affecting, 1206, 2301e
growth substances affect, 213, 2292, 2293, 3445
maturity tests, 1207, 3448
set, treatments affecting, 1182
size—
chromium sulphate increases, 1182
growth substances increase, 1204, 1205, 2097, 2290-2292
ringing increases, 1205
storage, 283, 284, 1168, 1208, 3450, 3513
thinning—*see above*, flower
yields—
factors affecting, 209, 3443
forecasting, 3432
vegetative characters in relation to, 209, 3446
girdling, 1205
growing—
in Argentina, 220c
in Australia, 219x
a book on, 2000
in the Far East, 3458x
in Great Britain, 2301k
in Greece, 2000
in Italy, 1216d, 1216h, 2301f, 3458h
in Switzerland, 1184, 1216q
in Turkey, 197
in the U.S.A., 2059, 2301n
in the U.S.S.R., 219q, 1185, 1216 l, 2301r
growth—
cycles, 1185
dormancy, 1186
fungicides affect, 1256, 3551
gall formation, 2408
root—*see below*, root
shoot, 201, 209, 2277, 3446
substance responses—*see above under* flower *and* fruit
herbicide injuries, 1322, 3586-3588
labour requirements, 1184, 3459e
leaf—*see also above*, composition—
abscission, 3549, 3552
area, yield related to, 209
autumn colouring, 224
characters, biometrical study of, 1216c
pigments, 202
mutations, 3428
nutrition—*see also above*, composition—
boron, 1135, 1198, 2286, 2308, 3440
cadmium, 3442
chromium and cobalt, 2289
foliar, 224, 1220, 2286, 2288, 2438, 3438, 3440, 3442
magnesium, 224, 1199, 1220
manganese, 1198, 1199, 2301t, 2311
manuring in general, 210, 1198, 2278, 2279, 3438-3440
minor elements in general, 337c, 3438
Vine—nutrition (*continued*)—
molybdenum, 1198
nickel, 2289
nitrogen, 211, 2274, 2284, 2285, 2438, 3439, 3441
phosphorus, 2274, 2284-2286, 3439, 3441
plant analysis a guide to, 2283, 2284
potassium, 211, 1199, 2274, 2284-2287, 2311, 2438, 3439, 3441
salt injury and tolerance, 2282
zinc, 1198, 2274, 2289, 2381
Osyris alba on, 355
pests—*see also below*, spraying—
ants, 3528
birds, 1206
bud moth (*Theresimima ampelophaga*), 1289
earwigs, 2051
grape berry moths (*Paralobesia* and *Polychrosis* spp.), 1287, 1288, 2419, 3546
leaf folder (*Desmia funeralis*), 3543
leafhoppers (*Erythroneura* spp.), 1283, 3543, 3561c
mealybugs, 3528
mites, 1269
moth (*Clysia ambiguella*), 2419
phylloxera, control and resistance, 319, 320, 1075, 1273, 1274, 2270, 2271, 2408, 2409, 3552, 3561m
scale (*Pulvinaria vitis*), 3548
Sparganothis pilleriana, 3562c
of stored raisins, 3562s
thrips (*Drepanothrips reuteri*), 2433
weevil (*Otiorrhynchus* sp.), 318, 2411, 3533
physiology—
carbohydrate metabolism, 3285s
osmotic values, 3429
photosynthesis, 2266, 3550
radiation responses, 1041
respiration, 1189, 2266
translocation, 2268, 2269
water relations, 1080, 3430
planting—
machines for, 1075
methods, 200
on saline soils, 2281
spacing, 206, 2276
transplanting adult, 3436
pollen development, 1187
pollination, artificial, 3444
polyploid, 2301p
products and by-products, furfural, 219s
propagation—*see also below*, rootstocks—
cuttings, methods, 200, 203, 1190, 1193, 1194, 3458b
cuttings, nutrition of parent vines, 2274, 2282
grafting—
on cuttings (bench-grafting), 1195, 1196, 2274, 3433-3435
methods, general, 2273, 2301h
paraffin waxes for, 1195
layering, 3458b

Vine (*continued*)—
pruning—*see also below*, training—
following frost damage, 236
methods, 148, 206, 208, 219t, 1188, 1201-1203, 3432, 3446, 3447, 3458u, 3453z
sex affected by, 1200
prunings, utilization, 219s
research in—
Australia, 2150, 3458u
the U.S.S.R., 2301v
various European countries, 1182, 3459e, 4174
ringing, 1205
root—
growth, 319, 3430
pruning, 2278
systems, 2275-2277
rootstocks—*see also above*, propagation—
phylloxera-resistant, 2270, 2271
-scion relationships, 204, 2263, 3432, 3434
trials, 205, 1197, 2271, 2272
in various European countries, 204, 205, 219f, 2301g
seed development, 1187
seed, tannin from, 3451
soil—
amendments, 2279
management—
cover crops and green manures, 1244, 2280, 2281, 3403, 3438
cultivation, machines, 219r, 2301o
cultivation, methods, 2276, 2278
fumigation, 1075
general, 2188
irrigation, 1075, 3443
methods compared, 212, 3458u
weed control—*see also above*, herbicide—343, 354, 355, 389j, 1318, 1319, 1339, 1340, 2461, 2467, 2511a, 3586-3588
salinity and methods of reducing it, 2281, 2282
temperature responses, 2277
water table, 2282
waterlogging and flooding, 2448e
spray(ing)—
fermentation affected by, 3445
injuries, 3250
machines for, 281
training—*see also above*, pruning—200, 206, 207, 1202, 2294, 2295
varieties—
Albana, 3458i
Amur (*V. amurensis*) selections, 2261
Ancellotta (=Lancellotta), 3458j
Barbera, 1216e, 1216k
Bianco d'Alessano, 3458p
Chrupka, White and Red, 1216b
classification and identification, 1216c, 1216e
Coda di Volpe Bianca, 3459d
Concord, 279, 1192
disease-resistant—*see above*, disease, varietal
Vine—varieties (*continued*)—
Fortana, 219g
Freisa, 1216e
Gold, 3458y
hybrids, French, 1192
Lambrusco types, 3427
Mavdur, 3434
Negro Amaro, 219n
Nerello Mascalese, 3458v
salt-tolerant, 2282
Somarello Rosso, 3458o
sultana, 197, 236
tetraploid, 1216k, 3428
trials, 3294
in various countries, 219h, 219m, 1183, 1216d, 1216h, 2017, 2301g, 3458h, 3478
Verdeca, 3458p
Verdiso, 1216i
wild and cultivated forms compared, 2260, 2262
yeast applications to new vineyards, 2264
Vineland hort. Exp. Stat., Ont., 50 years' work at, 3192
Viola (including pansy)—
diseases, 2889
growth substance responses, 668, 2099
patrinii, flower types, 2888
pests, 3906
weed control, 2468, 3593, 3905
Violets—
diseases, 2889
nutrition, 1685, 2945n
oil, 2798
pests, mites, 1685
Virginia agric. Exp. Stat., Rep., 3220
Virus(es)—*see also hosts*—
abnormalities induced by, 2334
control, inactivation or reduction by—
antibiotics, 534 l
antisera, 3856k, 3856 l
chemicals, 486, 542, 570, 574, 575, 1235, 1602i, 3139, 3839, 3856c, 3856n
cross protection, 1546h
growth substances, 30, 514
heat—*see also* Sugar-cane setts, treatment—246, 541, 543, 684, 685, 1005, 1235, 1582, 1769, 1810, 2337, 2756, 2913, 3928
high frequency energy, 2053
plant or seed extracts, 589b, 1694
propagation from tip cuttings, 1769, 2255, 3920
soil fumigation, 245, 543
detection by various methods, 250, 337j, 851, 1239, 1243, 1945, 2332, 2335
-free fruit clones, commercial clones compared with, 2336
-free fruit clones, selection and maintenance, 92, 219p, 1316 l, 2332, 2448q, 3561x
host—
reactions—
composition, 248, 337t, 1572, 1622, 1644, 2814, 3837
histological, 572

Virus(es)—host—reactions (*continued*)—
physiological, 573, 1239, 1522, 1643, 3836, 3837
recovery phenomena, 576
susceptibility, factors affecting, 505, 2755, 3838
insect, for pest control, 1494, 2836
multiplication or concentration, host nutrition affects, 426, 589e, 2780v, 2780w
nomenclature, 337f
reviews and surveys, 978, 2449e, 3207
specific activity, 3856d
spread, weeds' role in, 3795h
transmission by—
natural root grafting, 2331, 4000
pollen, 241
seeds, 1545g, 4000
soil, 245, 337n, 541, 543
vectors—
aphids—*see* Aphids
leafhoppers, 1316x, 2628
mealybugs, 852, 853, 3052
mites, 2341
nematodes, 868
soil microbes, 542
whiteflies, 1580
Vitamin(s)—*see also* Folic acid—
A—*see also* Pigments, carotenoid—content—
factors affecting, 2625
of fruits, 3038
of various plants, 1621
of vegetables, 1391, 2625
B (complex), content—
factors affecting, 1048
of fruits, 199, 3409
of seaweeds, 3904a
plant responses to applied, 52, 1740, 1805, 2525, 3250
C—
biosynthesis, 1148, 3425
content—
factors affecting, 158, 183, 195, 273, 428, 768, 772, 1376, 1382, 1505, 1686, 2129, 3197, 3215, 3271, 3442, 3634, 3698, 3793, 3969, 4154
of fruits—
deciduous tree—*see also* Apple *under* composition—158, 1152
small, 158, 159, 195, 648, 1152, 2242, 2251, 2926, 3442, 3969
tropical and subtropical—*see also* Citrus *under* composition—12, 954, 1989, 2021, 3002, 4045d, 4154
of various plants, 11, 158, 730, 1152, 1621, 1686, 2716f, 3698
of vegetables, leafy, 12, 1382, 3634
of vegetables, non-leafy—*see also* Tomato composition—12, 1382, 2616, 2635, 2716m, 3634, 3793
determination, 11, 1082o, 2239f, 3215
in plant metabolism, 2655, 2660, 3197, 4172
plant responses to applied, 3647, 3648, 4007
Vitamin(s) (*continued*)—
E in fruits, 2714
general—
determination, 1020
in fruits and vegetables, 1152
plant responses to applied, 2129
P in plants and fruits, 2301i
PP, plant responses to applied, 1740, 2525
Vitex pubescens, 2478
Vitis—
acitivalis, 2786
amurensis, 2261
spp., field performance, 3458s
vinifera, forms, origin and morphology, 2260, 2262
Vivipary in eggplant, 534u
Voles—*see under* Rodents
Vriesia splendens, 1745

Wageningen, Centre Plant-physiol. Studies, A.R., 3205
Wageningen Inst. hort. Engng, A.R., 992, 4179
Wales—*see under* Great Britain
Wallflower, root growth, 2131
Walnut—
diseases, bacterial, 2349, 2350
flowering season, 3454
growing in various countries, 1212, 1214, 2301m, 3459a
harvesting, 63, 3456
leaf shape, 3459c
nutrition, 2032
pests—
insects, 1756, 2428, 3538, 3545
mites, 1317b, 1756
nematodes, 294, 2392
physiology, 1215
planting on old walnut soils, 2392
research in Germany, 4174
root systems, 3455
rootstocks, 218, 1214
soil management, 2188
spray residues, 1314
storage, 3457
varieties, 3404
Washing vegetables, 3712
Washington agric. Exp. Stats, A.R., 1015v
Washington St. Coll. Res. Progr. Reps, 2051-2053
Water—*see also* Climate, Drought, Flooding *and* Irrigation—
absorption by leaves, 1035
absorption by roots, 1081u
content of plants, factors affecting, 2129
culture—*see* Soilless culture
losses from leaves, 2082
relations of plants—*see also* Transpiration *and separate plants under* physiology *and/or* soil—
apparatus for measuring, 3285n
cut flowers, 3917
deciduous fruits and nuts—*see also* Apple *and* Vine—1116, 2169, 2194, 2317

Water—relations of plants (*continued*)—
evergreen fruit and plantation—*see also* Sugar-cane—779, 803, 3074, 4039, 4050
ornamentals, 494, 717, 2082
reviews on, 58, 1066, 1116
small fruits, 2258
vegetables—*see also* Tomato—476, 2082, 2633, 2638, 3236, 3237
tanks, multi-purpose, for orchards, 3381
Watercress—
diseases, 3622
packing and marketing, 1546j, 3736
propagation from seed, 3622
Water-hyacinth (*Eichhornia crassipes*) control, 1329, 2511e
Water-lilies, a book on, 4164
Water-melon—
composition, 1422
diseases, 534r, 2577, 2578
growing in Hawaii, 3796g
growth substance responses, 2522
growth substances in, 1209
harvesting, 535f
nutrition, minor elements, 1420
pests, 429
physiology, 2076
polyploid, 535i
as rootstock for cucumber, 3672
seed storage, 3624
seed treatment, 2577
soil management, irrigation, 1422
transport, 535f
varieties, 535i, 2033
Wattle—*see also Acacia*—
growing in Morocco, 3903o
gum from, 649h
nutrition, 1015s, 1667, 4192
pests, 646, 2836
Wax(es)—
chemistry of, 959t
plant, fungistatic properties of, 257
plant sources of, 3904d, 4157b
Weather—*see* Climate, Frost, Hail, Lightning, Meteorology, Sun *and* Wind
Weed(s)—*see also* Parasitic plants—
a book on, 4163
competition, crop responses, 3617
control—
a book on, 2450
in crops—*for separate crops see each under* soil management *or* weed—
nurseries—*see below*, in specific areas
ornamentals—
bulbs, etc.—*see also* Bulbs *and* Gladiolus—1320, 1342, 1344, 1717, 2034, 2472, 2905, 3405, 3565, 3596, 3597, 3942, 3948, 4168
herbaceous, 356, 1012, 1323, 2468, 2469, 2473, 2475, 3593-3595
trees and shrubs, 357, 1341, 2472, 2473, 2477, 3567, 3590-3592
various, 389c, 389g, 1345, 1368m
Weed(s)—control—in crops (*continued*)—
perennial tropical and subtropical fruit and plantation crops—*see also* Citrus, Coffee, Hevea, Pineapple *and* Sugar-cane—361, 362, 364, 616, 1350, 2477, 2478, 2481, 2511g, 3599, 3600, 3621c, 4077
small fruits—*see also* Blueberry, Cranberry, Raspberry, Strawberry *and* Vine—347, 349, 1368m, 2466, 3565
temperate tree fruits—*see also* Apple *and* Pear—353, 1368m, 2511h, 3565, 3582
various—*see also* Tobacco—389b, 1346, 1666, 2020
vegetables—*see also* Asparagus, Beans (*Phaseolus*), Beetroot, Cabbage, Carrot, Cucumber, Leek, Lettuce, Onion, Pea, Spinach *and* Tomato—
cruciferous, 1363, 2090, 2490, 2491, 2643
general or unspecified—*see* Vegetables
various individual, 339, 342, 380, 382, 384, 397, 1319, 1320, 1357, 1358, 1368m, 1421, 2489-2492, 2505, 3405, 3604
economics of, 370, 389a, 1351, 3612
methods—
biological, 352, 984, 1318, 1327, 1368e, 1368f, 1368p, 2448p, 2478
chemical—*see* Herbicides
mechanical, 341, 389i, 1352, 2478, 2481, 3577
soil fumigation—*see under* Fumigation, soil
various, 346, 2478, 3563, 3605, 3621b
in mulches, 1338
of particular types—*see also individual weed species*—
annual and biennial, 340, 354, 389j, 1366, 2496, 2497
aquatic, 340, 345, 361, 389k, 1327-1329, 1368b, 1368k, 2450, 2454, 2455, 2511e, 3574-3576, 3621 l, 4184
grasses and sedges—*see also Agropyron repens*, Crabgrass *and Cyperus* spp.—340, 343, 347, 348, 354, 361, 365, 376, 389i, 1318, 1321, 1339, 1351, 1354, 1356, 1360, 2455, 2473, 2477, 2478, 2488, 2496, 2510, 2511b, 3603, 3621e
perennial herbaceous, 349, 389h, 1331, 1332, 2458, 3580
perennial woody—*see* Trees and Shrubs, destruction
reviews on, 1368h, 3621k, 3621m
in specific areas—
canal and ditch banks, 346, 353
garden paths, 3573
irrigation tanks, 1368d
lawns—*see* Lawn management
nurseries, 340, 2450, 2469-2471, 3405, 3589, 3590, 3906, 3907, 4173, 4195
railways, 3621h
seed-beds, 539, 1347, 1554, 2474, 2475, 2489, 2495

Weed(s)—control—in specific areas (*continued*)—
shelterbelts, 358
in various countries—
Canada, 3565, 3621f
European, 339
tropical and sub-tropical, 359, 360, 2478
the U.S.A., 340
diseases transmitted by, 3795h
ecology, nutrition of crops affects, 2482
Research Inst., Danish, A.R., 1368 l
of various countries, 359, 4163
Weigela—see Diervilla
Wellesbourne, nat. Veg. Res. Stat., A.R., 3622
West African—*see also separate countries*—
Cocoa Res. Inst., Tafo, A.R., 3041
West of Scotland agric. Coll., A.R., 1012, 2058t, 3221
Western Canad. Soc. Hort., Rep. Proc. annu. Mtg, 1013
White currant, composition, fruit, 2240
Whitewashing trees, 1225
Whortleberry, bog (*Vaccinium uliginosum*), fruit composition, 2251
Wilhelminadorp Exp. Stat. Fruit-Growing in the Open, A.R., 1084
Willow—*see also Salix*—
control, 1328
growth substance responses, 1360
pests, 3901, 3902
products, baskets, 1670, 4200v
species for catkins, 2027
Wilting—
diseases cause, a review, 1316j
of plants, nutrition affects, 2633
toxins—*see under* Toxins
Wind—
crop responses and damage, 230, 231, 534e, 774, 823d, 1639, 1999k, 2326, 3475
erosion, soil stabilizer to prevent, 2146c
tunnel for spray drift studies, 2453
Windbreaks—
for crops, fruits, 230, 1227, 1228, 3176p
for crops, vegetables, 2565, 2566
microclimatic effects, 229, 1227
research on, 2325
trees and plants—
cereals, 1228
poplars, 2449o
sugar cane, 3176p
in various countries, 1227, 4173
weed control in, 358
Wireworm control, 589q, 1591, 3561s
Wisconsin agric. Exp. Stat., A.R., 2058u, 4195, 4201b
Wisteria, herbicide injuries, 1322
Witches' broom on plants, causes and effects, 2334
Wood preservatives, 1078
Wood shavings as a soil amendment, 2891
Woodpeckers, pest control by, 2421
Wound dressings for trees and shrubs, 1139, 2143
Wound healing, 1410
Wye College, hop research at, 618
Xanthine, leaf ageing induced by, 3530
Xanthium spp.—
growth substance responses, 2087, 2103, 2105, 3253
nutrition and flowering, 50
photoperiodic responses, 18-21, 2105, 3725
seed dormancy, 40
seed oil, 644
temperature responses, 3746
Xanthomonas—
begoniae, 3996o
campestris, 1402
citri, 1812, 1841b, 2026, 3027s
corylina, 255
juglandis, 2349, 2350
pelargonii, 3931
phaseoli, 446
pruni, 254, 2345, 3481
vesicatoria, 512, 3794
Xanthosoma spp. as vegetables, 533
X-rays—
frost damage detected by, 2978
plant responses, various, 41, 669, 3268, 3830
treatment of pollen, 3666
treatment of seeds, 1042, 1382, 3268, 3747
uses in breeding, 41, 681
Xyleborus pseudoangustatus, 3494
Xyleborus spp. on cacao, 856
Xylem, growth substances affect formation of, 3251
Xylocopa varipuncta, 4043
Xylotrechus quadripes, 1890

Yearbook(s)—
of Agriculture, U.S.D.A., 1957: Soil, 3219
Amateur Gardening Annual, 3209
American Tomato, 3740
Annual Rev. Entomology, 3216
Commercial Grower Handbook and Diary, 1015d
Daffodil and Tulip, roy. hort. Soc., 1730
Danish hort. Soc., 3202
Deutsche Akad. LandwWiss., Berlin, 2043
Food agric. Statistics, FAO, 4200e
Fruit Annual, 2050
Fruit, roy. hort. Soc., 69
Grower Guide Annual, 2058i
Horticultural Engineering, Wageningen, 2031
Lily, roy. hort. Soc., 1727
Mysore agric. Dep., 2039
Plant Path. Serv., Wageningen, 1005
Rhododendron and Camellia, roy. hort. Soc., 1777
Rhododendron and evergreen woody plants, Rhododendron-Gesellschaft, Bremen, 2941
Rose Annual, nat. Rose Soc., G.B., 2918
Yeasts—
in fruit, 3395
gamma irradiation effects altered by, 2119
spraying new vineyards with, 2264
toxic, insect-borne, 939
Yew—*see Taxus*

Yponomeuta padella malinella, 1306, 2401
Yucca spp., propagation, 617
Yucca spp., as source of vitamin C, 2716f
Yugoslavia, crops, essential oil plants, 606

Zanzibar Dep. Agric., A.R., 2054
Zebrina sp., nutrition, foliar, 45
Zinc—*see also* Fungicides—
application, foliar, 137, 226, 2950, 3076
determination, 3286g
interrelationships with other elements, 1788, 1789, 3076, 4011, 4123
nutrition—
of crops—
evergreen fruit and plantation—*see also* Citrus nutrition—1788, 1789, 2950, 3076, 3999, 4090, 4123
fruit and nut trees, deciduous, 137, 226
ornamentals, 2864
a review on, 2011
small fruits, 2289
vegetables—*see also* Tomato nutrition—2121, 2588, 2633, 2639
fruit set affected by, 3048
indole metabolism affected by, 3247
Zinc (*continued*)—
radioactive, 1041, 2121, 2950, 3076, 3312, 4013
seeds treated with, 2126
sources, chelates, 137, 226, 823b, 3999, 4013
sources, glass frit, 1406, 2639
wound treatment with, 1139
Zinnia—
composition, 3934
diseases, 3935
grafting on tobacco, 3934
growth substance responses, 2091, 2102
pests, 1687
pinching, 1685
ring culture, 2944b
seed treatment, 3935
weed control, 2468
Zizyphus—
jujuba, a bibliography, 960q
lotus, 985
mauritiana, 2047
Zoysia spp. as lawn grasses, 3953, 3996t
Züchter, cumulative index for, 4200x
Zürich-Oerlikon, landw. Versuchsanst., A.R., 1015w
Zygadenus spp., alkaloids from. 2839w

List of publications examined in the compilation of Horticultural Abstracts, Vol. 28, 1958, additional to and amending those listed in the index to Vols. 26 and 27.

Acta Botanica Neerlandica, Amsterdam [*Acta bot. neerl.*]
Advances in Pest Control Research, New York [*Advanc. Pest Contr. Res.*]
Agricultural Research Review, Dokki, Egypt [*Agric. Res. Rev. Cairo*]
Anais [Annaes] da Academia Brasileira de Ciencias, Rio de Janeiro [*Ann. Acad. bras. Sci.*]
Annals of Agricultural Science, Cairo [*Ann. agric. Sci. Cairo*]
Annual Report Banana Board Research Department, Jamaica, Kingston [*A.R. Banana Bd Res. Dep. Jamaica*]
Annual Report Fruit Research Station, Saharanpur, India [*A.R. Fruit Res. Stat. Saharanpur*]
Annual Report Glasshouse Crops Research Institute, Littlehampton, Sussex [*A.R. Glasshouse Crops Res. Inst.* Littlehampton]
Annual Report of the Rubber Research Institute of Ceylon, Colombo [*A.R. Rubb. Res. Inst. Ceylon*]
Annual Report States Experimental Station, Howard Davis Farm, Trinity, Jersey [*A.R. States exp. Stat. Jersey*]
Annual Report of the Western Region Marketing Board, Ibadan, Nigeria [*A.R. west. reg. Mkg Bd Ibadan*]
Annual Review of Entomology, Palo Alto, California [*Annu. Rev. Ent. Calif.*]
Arnoldia, Cambridge, Mass. [*Arnoldia*]

Banana Bulletin, Murwillumbah, N.S. Wales [*Banana Bull.*]
Berichte des Ōhara Instituts für Landwirtschaftliche Biologie, Okayama Universität, Kuraschiki, Japan [*Ber. Ohara Inst.*]*
Bulletin of the Citrus Experiment Station, Shizuoka Prefecture, Japan [*Bull. Citrus Exp. Stat. Shizuoka Pref.*]
Bulletin of the Faculty of Agriculture, Kirosaki University, Kirosaki, Japan [*Bull. Fac. Agric. Kirosaki*]
Bulletin of the National Institute of Agricultural Sciences, Series E (Horticulture), Hiratsuka, Kanagawa, Japan [*Bull. nat. Inst. agric. Sci. Hiratsuka*]
Bulletin of the Research Council of Israel. Section A. Chemistry. Jerusalem [*Bull. Res. Coun. Israel Sect. A*]
Bulletin of the University of Osaka Prefecture. Series B. Agriculture and Biology. Sakai, Osaka [*Bull. Univ. Osaka Pref. Ser. B*]

Chmelařstvi, Prague [*Chmelařstvi*]
Ciencia y Naturaleza. Revista del Instituto de Ciencias Naturales de la Universidad Central, Quito, Ecuador [*Cienc. y Natur. Ecuador*]

Entomologia Experimentalis et Applicata, Amsterdam [*Ent. exp. appl.*]
Experimental Horticulture, London [*Exp. Hort. Lond.*]

Fiziologija Rastenij, Moscow [*Fiziol. Rast.*]

Grower Guide Annual, London [*Gr Guide Annu. Lond.*]
Growers Handbook and Annual Proceedings Ohio Vegetable and Potato Growers Association, Columbus, Ohio [*Annu. Proc. Ohio Veg. Grs' Ass.*

Hilger Journal, London [*Hilger J.*]
Horticultural Advance, Saharanpur, India [*Hort. Advance*]

* Formerly Berichte des Ōhara Instituts für Landwirtschaftliche Forschungen.

Indian Journal of Sugarcane Research and Development, New Delhi [*Indian J. Sugarcane Res.*]
Indian Sugar, Calcutta [*Indian Sug.*]
Informaciones del SCIPA (Servicio Cooperativo Inter-Americano de Producción de Alimentos), Lima, Peru [*Informac. SCIPA*]
Investigations, North of Scotland College of Agriculture, Aberdeen [*Invest. N. Scot. Coll. Agric.*]
Izvestiya Timiryazevskoi Sel'skokhozyaistvennoi Akademii, Moscow [*Izv. Timiryazev. seljsk. Akad.*]

Jaarverslag Centrum voor Plantenphysiologisch Onderzoek, Wageningen [*Jversl. plantenphysiol. Onderz. Wageningen*]
Jahresbericht Staatliche Lehr- und Versuchsanstalt für Gartenbau, Heidelberg [*Jber. VersAnst. Gartenb. Heidelberg*]
Jardins du Maroc. Bulletin de la Société d'Horticulture et d'Acclimatation du Maroc, Casablanca [*Jardins du Maroc*]

Landwirtschaftliches Zentralblatt . . . Abteilung II. Pflanzliche Produktion, Berlin [*Landw. Zbl.* Abt. II]
Lasca Leaves, Arcadia, California [*Lasca Leaves*]

Memoria de los Trabajos Realizados, Instituto Nacional de Investigaciones Agronomicas, Madrid [*Mem. Inst. nac. Invest. agron. Madrid*]
Menara Perkebunan, Djakarta [*Menara Perk.*]*
Mycologia, Lancaster, Pa. [*Mycologia*]

Naturwissenschaften, Berlin [*Naturwissenschaften*]
New Zealand Journal of Agricultural Research, Wellington [*N.Z. J. agric. Res.*]†
New Zealand Journal of Science, Wellington [*N.Z. J. Sci.*]‡

Obst- und Gartenbaulicher Beratungs- und Informationsdienst Weihenstephan, Weihenstephan [*Informationsdienst Weihenstephan*]

Papers. Department of Botany, University of Queensland, Brisbane [*Paps Dep. Bot. Univ. Qd*]
Parks and Sports Grounds, London [*Parks*]
Proceedings of the Florida Mango Forum, Stuart, Fla [*Proc. Fla Mango Forum*]
Proceedings of the Meeting of the Western Section, National Weed Committee, Ottawa [*Proc. Mtg west. Sect. nat. Weed Cttee, Ottawa*]
Pubblicazioni del Centro di Studio sul Castagno, Rome [*Pubbl. Cent. Stud. Castagno*]

Quarterly Circular. Tea Research Institute of East Africa, Kericho [*Quart. Circ. Tea Res. Inst. E. Afr.*]

Rapport Général Station de Recherches de l'État pour l'Amélioration des Plantes Fruitières et Maraîchères, Grand-Manil, Gembloux [*Rapp. Rech. Amél. Plant. fruit. Grand-Manil*]
Rapport du Ministre de l'Agriculture de la Province de Québec, Québec [*Rapp. Minist. Agric. Qué.*]

* Formerly De Bergcultures.

† Formerly New Zealand Journal of Science and Technology, A.

‡ Formerly New Zealand Journal of Science and Technology, B.

Record of Investogations, Barbados Department of Science and Agriculture, Bridgetown [*Rec. Invest. Barbados Dep. Sci. Agric.*]

Report of the Citrus Experiment Station, Shizuoka Prefecture, Japan [*Rep. Citrus Exp. Stat. Shizuoka Pref.*]

Research Report National Weed Committee, Eastern Section, Ottawa [*Res. Rep. nat. Weed Cttee, east. Sect. Ottawa*]

Resumen de Actividades Servicio Shell para el Agricultor, Campañia Shell de Venezuela, Cagua [*Resumen Act. Serv. Shell Agric. Venezuela*]

Revista de la Facultad de Agronomia, Universidad Nacional de La Plata, Argentina [*Rev. Fac. Agron. Univ. La Plata*]*

Rodriguesia, Rio de Janeiro [*Rodriguesia*]

South African Journal of Agricultural Science, Pretoria [*S. Afr. J. agric. Sci.*]

* Formerly Revista de la Facultad de Agronomia Universidad Nacional de la Ciudad Eva Peron.

Span. Shell Public Health and Agricultural News, London [*Span*]

Studi Sassaresi. Annali della Facoltà di Agraria dell' Università di Sassari, Sassari, Sardinia [*Stud. Sassar.*]

Study of Tea. Tôkai-Kinki Agricultural Experiment Station, Tea Division, Kanaya-chô, Japan [*Study of Tea*]

Tobacco, New York [*Tobacco, N.Y.*]

Tobacco Abstracts, Raleigh, N. Carolina [*Tob. Abstr.*]

Torfnachrichten, Hannover and Bad Zwischenahn [*Torfnachrichten*]

Vědecké Práce Výzkumného Ústavu Rostlinné Výroby ČSAZV v Praze-Ruzyni, Prague [*Ved. Práce výzk. Úst. rostl. Výroby ČSAZV*]

Western Fruit Grower, San Francisco [*West. Fruit Gr*]

Zeitschrift für Angewandte Entomologie, Hamburg [*Z. angew. Ent.*]

Printed by Headley Brothers Ltd 109 Kingsway London WC2 and Ashford Kent